Technical communication

Prof. (Dr.) M. D. Desai
Ex. Professor & Head, Institute of Technology,
Nirma University & LD College of Engineering
AHMEDABAD
Communication is an Art. But, it is not inherited by birth. Even music, drawing, painting, and dramatic skills are not inherited. From birth or childhood some people may have interest or inclination for certain arts. Most of the arts require some formal training. Communication skill is also an art but, requires some formal training for grooming. Even computer programming languages stress on the syntax. Foundation of any language rests on the strong base of knowledge of grammar. It is the scientific basis of any language. The knowledge of grammar is imparted from early school days. In the fierce race of competition for glamorous careers of engineer, doctor, scientist and chartered accountant or manager the poor language is left much behind and no body looks back. Many people do not even know their mother tounge properly. English is a second language for most of us. Sometimes without touching the roots we directly jump on the branches. That is the root cause of the problem.

At any stage of life or in any career or at any position what you think or what you know or what you are, is not important. What others know about you, your talents, your achievements, your capability and your qualities is most important. It is possible only by communication.

In past, efforts were made to improve the English of college going students by teaching the subject in the form of some novel as the textbook. It can create some interest in English literature but it can not improve communication. Nowadays, the need of communication skill is realized at all levels. Technical communication is not much different than general communication. But it is the most neglected aspect by technical people. They can not work in isolation. They have to deal with different types of people at different levels. They may be students, supporting staff, faculty, controlling officers, controlling authorities, funding agencies, accrediting authorities, affiliating authorities, government agencies, labour, operators, instructors, supervisors, executive officers and managing directors.

In our love for mathematics, science and engineering, we the technical people, mostly neglect the communication and that is why we have to talk about technical communication. Starting from an engineering student to lecturer, professor, principal, director, supervisor, instructor, engineer, chief engineer or managing director, at any level we can not get rid of communication. Our excellence is pitiable if our oral or written communication is poor. At various stages of this book, frequently I have mentioned that what we are and what we think about ourselves is not important. What the people know about our qualification, qualities, attributes, achievements, capabilities is the most important aspect of our career. It is possible by the communication and communication skill.
Many of the brightest students could not be selected by the best companies coming for campus interviews, just due to weak communication skill. Against this, many academically average students rose to the highest position in their career. It is not just a luck. It is by their communication skill and marketing of the self. Many academicians, scientists and technocrats had average career, just because they could not market themselves or they could not find a real jeweler who can assess their real values.

In introductory chapter I ,it is mentioned that communication starts with day one of our life. The communication enhances with the knowledge of language at home and school but, language is not the barrier to communication. Communication is not vocabulary but effective use of vocabulary. Communication skill is not the hobby of a teacher, it is the foundation of his career. The various types of communication and various levels of communication are covered in this chapter. Most of the problems in the world are created by communication and most of the problems are also, solved by communication. Technical communication is not much different from general communication but, if the technical people neglect communication, they have to pay heavy price for it. In this age of globalization, technocrats with little investment of time for improvement of oral and written (English) communication skill , can earn heavy dividends.

Chapter II starts with emphasis on non-verbal communication. It moulds your personality. Conscious efforts are necessary to overcome the barriers to effective communication. The barriers may be internal, external or official. If the negative biasing by these barriers is overcome, the current of your communication will flow throughout your life cycle uninterruptedly.

Chapter III stresses that foundation of good communication rests on the strong foundation of listening. Many problems are created by improper listening. Active and passive forms of listening should be understood and practiced. Barriers to effective listening should be eliminated. One way communication is useless. Listening completes the loop for effective communication.

Chapter IV brings inner view of interviews. All of us, face various types of interviews at various stages of life. The interviewer is in the safe zone and enjoys the tensions and worries of the candidate. The key, to open the gate leading to golden opportunities of your career from the dark zone of unfulfilled ambitions, is handed over to you here. Apart from job interviews, issues related to counseling, conflict resolution, departing in healthy environment, admission, Ph.D. defence are touched upon. In addition to guidance for preparation for interview, general tips are given. The red and green signals of interview are also highlighted.
Chapter V mixes you in the group for group discussion. Introducing the etiquettes for group discussion, it charges you with all preparations and skills for group discussion, it leads you to the round table of group discussion for your active participation. You are ready for role playing and case studies. Awareness about qualities assessed in GD inspires full confidence in you.

In Chapter VI you read about the reading skills. After your journey through this chapter your comprehension should improve and your reading may leave long lasting footprints on the sea shore of your mind.

In learning of language, most of the people are afraid of grammar. It is the incubator of your ideas, aspirations and expressions. With initial care in the infant stage, it teaches you to creep, crawl, put initial steps on the earth of language, walk and finally run on it. Communication is not just richness of vocabulary. The quiver of your vocabulary may be full of arrows of proper words but, the effective use may be made by only Arjun to win the battle of Kurukshetra.

Chapter VII exposes the time frame of tenses and explains the use of voice, conditionals, prepositions, concord, idioms, confusables and substitutes to create colours on the canvas of communication.

Chapter VIII deals with written communication. The wisdom of words can win the world, worship, wipe and wound also. Selection of sufficient and proper words is important. Using good sentences and paragraphs, the soft copy of your ideas is converted to the hard copy of the script, by which you can create long lasting brain finger prints in the minds of the readers. Just like the journey plan, you should plan properly before writing any thing. As the implementation of the journey plan leads to your dream destination, writing after proper planning leads you to the hearts of your readers.

In chapter IX, it is mentioned that effective presentation is necessary at all stages of life for different purposes; it also depends on the audience, event and location. Various presentation aids add fragrance of flowers and beauty of colours to the presentation. With the same ingredients of content and information, the nuance of delivery follows special recipe to cook a delightful dish of delivery, which directly goes to the minds, hearts and souls of the audience. The smart presenter is not doing something different but, is doing it differently, which is his nuance and art.

Chapter X shows that Letters are necessary not only to express love and loyalty, in official communication, it provides most important link to connect all stake holders. It keeps the wheel of business running. Various forms of letter are considered here.

Chapter XI proves that resume and curriculum vitae create identity of the candidate. They are the passwords opening the window of interview. The cream of the
career and credentials can be presented by this important medium. A good CV is as good as virtual interview. All the strengths and weaknesses are reflected in this mirror.

Chapter XII starts with the definition of technical proposal; the purpose and need are discussed. The structure and characteristics of technical proposals are explained. The study of typical proposals opens the gateway of business, research, educational and accreditation proposals.

Chapter XIII covers the guidelines, details, directions and suggestions for technical description. They are useful for describing product, process, procedure, project and practical.

Chapter XIV deals with the objective, structure, characteristics and types of technical reports. Engineers, professors and professional are required to prepare such reports for various purposes.

The appendix gives some model speeches. It can be observed that if good vocabulary is developed, you can play with words. Good analogies can be developed. Audience gets something new instead of monotonous speeches.

The book started with the general requirements of study of language. It helps in building the express highway on which you can drive your car of technical communication in top gear.

I am inspired to write this book on Technical Communication for the technocrats of today and tomorrow. I wish that they make sincere efforts to overcome the constraints of communication and leap forward, overcoming all the hurdles to win the race of global competition. Apart from university students, if somebody is inspired by my book and takes up the challenge in his career, by using all the arrows in the quiver of this book to conquer the battle field of the life, the author will be the happiest fellow on the earth.

I dedicate this book to my little lovely family – my beloved wife Niha, my darling daughter Manisha, my only son-in-law Umesh and wonderful grand daughter Swenee. My family has shared all the best and worst moments with me. My intentions and aspirations are highly strengthened by their unconditional support. I bow before the invisible, inaudible, inexhaustible super power which charges me with so much enthusiasm and energy at this age. I am highly thankful to all my near-ones and dear-ones for their good wishes.

Dr. M.D. Desai
Ex. PROF. & Head of the Department, L.D. College of Engineering and Nirma University

Technical Communication
INDEX

Chapter I : Communication Skill

I.1 Introduction
I.2 My experience with communication
I.3 Teaching and Communication
I.4 Process of Communication
   I.4.1 Communication Process
   I.4.2 Types of Communication
      1.4.2.1 Assertive Communication
      1.4.2.2 Aggressive Communication
      1.4.2.3 Passive Communication
      1.4.2.4 Passive-Aggressive Communication
   I.4.3 Levels of Communication
      1.4.3.1 Extra personal Communication
      1.4.3.2 Intrapersonal Communication
      1.4.3.3 Communication with the soul
      1.4.3.4 Interpersonal Communication
      1.4.3.5 Organisational Communication
      1.4.3.6 Internal Operational Communication
      1.4.3.7 External Operation Communication
      1.4.3.8 Personal Communication
      1.4.3.9 Mass Communication
   I.4.4 Problems of Communication
   I.4.5 Technical Communication and General Communication Questions

Chapter II : Verbal and Nonverbal Communication

II.1 Verbal Communication
II.2 Nonverbal Communication
   Components of Nonverbal Communication
      II.2.1 Artifacts
      II.2.2 Haptics
      II.2.3 Chronemics
      II.2.4 Proxemics
      II.2.5 Kinesics
         II.2.5.1 Physical Appearance
         II.2.5.2 Posture
         II.2.5.4 Gesture
         II.2.5.4 Eye contact
         II.2.5.5 Body Language
II.2.5.6 Facial Expression

II.3 Barriers to effective communication
   II3.1 Intrapersonal Barriers
      II3.1.1 Assumptions
      II3.1.2 Perceptions
      II3.1.3 Background
      II.3.1.4 Thinking
      II.3.1.5 Inferences
      II.3.1.6 Imperviousness

II.3.2 Interpersonal Barriers
   II3.2.1 Knowledge of Language
   II3.2.2 Vocabulary
   II3.2.3 Mismatch of verbal and Nonverbal expressions
   II3.2.4 Emotions
   II3.2.5 Selectivity
   II3.2.6 Disturbances
   II3.2.7 Language and cultural barrier
   II3.2.8 Barriers of listening skills

II.3.3 Organisational Barriers
   II3.3.1 Multiple Links
   II.3. 3.2 Barrier of Fear
   II.3. 3.3 Contradictory Forces
   II.3. 3.4 Barrier of Media for Communication
   II.3. 3.5 Explosion of Information

II.4 Communication Across cultures

Questions

Chapter III : Listening Skills

III.1 Listening Process
III.2 Requirements of Good Listening
III.3 Conditions for effective Listening
III.4 Types of Listening
   III.4.1 Comprehensive Listening
   III.4.2 Critical Listening
   III.4.3 Listening as a Hobby and for Entertainment
   III.4.4 Empathetic Listening
   II.4.5 Active and Passive Listening

III.5 Barriers in Effective Listening
Chapter IV : Interviews

IV.1 Introduction

IV2 Types of Interviews

IV.2.1 Job Interviews
- Initial Selection
- Task specific selection
- Evaluation Interviews
- Persuasive Interviews
- Counselling Interviews
- Conflict Resolution
- Disciplinary Action Interview
- Termination Interview
- Exit interview

IV2.2 Media Interview

IV2.3 Election Interview

IV2.4 Matrimonial Interview

IV2.5 Tele Interview

IV 2.6 Business Interview

IV 2.7 Admission Interview

IV 2.8 Interview for passport/visa

IV 2.9 Ph.D. Interview

IV.3 Preparation for the interview

IV.3.1 Know the organisation

IV.3.2 Know the job

IV.3.3 Theoretical knowledge

IV.3.4 General Knowledge

IV.3.5 Mock Interview

IV.3.6 Collect Internal Information

IV.3.7 Group Discussion

IV.3.8 Communication

IV.3.9 Your Resume

IV.3.10 Questions

IV.4 General Tips for the Interview

IV.4.1 Dress Code

IV.4.2 Punctuality

IV.4.3 Relaxation

IV.5 Do’s and Do not’s for the interview.
IV.6 Importance of nonverbal aspects.
IV.7 Types of questions asked in interviews

Chapter V : Group Discussion

V.1 Introduction
V.2 Group Discussion for selection process
V.3 Guidelines for group discussion
V.4 Group discussion etiquettes
V.5 Role playing in group discussion
V.6 Qualities Assessed in group discussion
V.7 Topic based discussion and case studies
  V.7.1 Introduction
  V.7.2 Preparation for GD on case studies

Chapter VI : Effective Reading Skills

VI.1 Introduction
VI.2 Purpose of reading
VI.3 Skimming and scanning
VI.4 Scanning
VI.5 Comprehension
VI.6 Improvement of Comprehension skills

Chapter VII : Grammar and Vocabulary

VII.1.1 Vocabulary
VII.1.2 Improving Vocabulary
VII.2 Grammar
  VII2.1 Tenses and concept of time
           Present
              • Simple present
              • Continuous present
              • Perfect present
           Future
              • Simple future
              • Continuous future
              • Perfect future
           Past
              • Simple past
Chapter VII : Voice

VII.2.1 Continuous past
VII.2.2 Perfect past

Chapter VII : Passivity

VII.2.3 Conditional sentences
VII.2.3.1 Probable condition
VII.2.3.2 Improbable condition
VII.2.3.3 Impossible condition

Chapter VII: Prepositions

VII.2.4 Prepositions

Chapter VII: Concord

VII.2.5 Concord

Chapter VII: Idioms

VII.2.6 Idioms

Chapter VII: Confusables

VII.2.7 Confusables
VII.2.7.1 Homonyms
VII.2.7.2 Homophones
VII.2.7.3 Eponyms

Chapter VII: One word substitutes

Chapter VIII : Written Communication

VIII.1 Introduction

VIII.2 Selection of words
  Adaptability, Clarity, Effectiveness, Economy, Preciseness, some guide lines.

VIII.3 Sentence
  Sentence construction guide lines, break points, optimization of words.

VIII.4 Paragraph Development
  VIII.4.1 Introduction
  VIII.4.2 Sentences in a paragraph.
  VIII 4.3.1 Attributes of a good paragraph
     Topic sentence, supporting sentences, coherence, Pronouns, key words, transition words, parallelism, unity, adequate development and proper size.
  VIII 4.3.2 Development of Paragraph: controlling idea, Explanation, illustration, termination, central idea Development

Questions

Chapter IX : Effective presentation strategies

IX.1 Introduction
IX.2 Defining purpose
IX.3 Analysis of Audience and Location
IX.4 Organising content
IX.5 Presentation format
  Introduction, main body, sequence, subtitles, comparison, cause and effect, problem solving, review, design and development, results, conclusion or summary, references, question answer.
IX.6 Preparation of outline of presentation
IX.7 Visual Aids
IX.8 Nuances of Delivery
  Modes of presentation
  IX 8.1 Manuscript based presentation
  IX 8.2 Memorisation based presentation
  IX 8.3 Extemporaneous presentation
  IX 8.4 Impromptu mode of presentation
  IX 8.5 Classroom delivery
  IX 8.6 Advanced Delivery Mode

Questions

Chapter X : Letter Writing
X1. Introduction.
X2. Business Letters
  X.2.1 Format of business letters
    Sender’s details, receivers details, subject and reference,
    Courteous greeting or salutation, core, conclusion, termination,
    outward number, enclosure, CC, details on the envelope,
    some more points.
  X.2.2 Sample Business Letters
    X.2.2.1. Letter of complaint
    X.2.2.2. Letter of inquiry
    X.2.2.3. Complaint, claims and adjustment letters.
    X.2.2.4. Acceptance letter for National Conference
    X.2.2.5. Invitation letter to key note speaker
    X.2.2.6. Invitation letter to chief guest
    X.2.2.7. Appointment Letter

Questions

Chapter XI : Job Application

XI.1 Introduction
XI.2 Contents of Resume
XI.3.1 Curriculum Vitae
XI.3.2 Structure of CV
XI.3.3 Key to Good CV

Questions
Chapter XII : Technical Proposals

XII.1 Introduction
XII.2 Definition
XII.3 Purpose
XII.4 Types of proposals
  XII.4.1. Business Proposals
  XII.4.2. Research Proposals
  XII.4.3. Educational Proposals
  XII.4.4. Accreditation Proposals.
XII.5 Characteristics of proposals
XII.6 Structure of proposal
  XII.6.1 Introductory part: cover page, title page, covering letter, summary of proposal.
  XII.6.2 Typical proposal formats.
    XII.6.2.1 Typical format of technical proposal
    XII.6.2.2 Educational proposal format
    XII.6.2.3 Research proposal
    XII.6.2.4 Proposal for PG Programme
Questions

Chapter XIII : Technical Descriptions

XIII.1 Introduction
XIII.2.1 Guidelines for technical description
XIII.2.2 Details of technical descriptions
XIII.3 Suggestions for effective technical description
XIII.4 Components of Technical Description:
  Introduction, background, parts, characteristics, description, Strategy, chronological organisation, headings, warning, Objectivity, usability.

Questions

Chapter XIV : Technical Reports

XIV.1 Objectives
XIV.2 Structure of reports
  Shape, cover page/title page, summary, index/table of contents.
  Introduction, main body/core, results, conclusion, recommendation, references and bibliography, appendices.
XIV.3. General Guidelines
XIV.4 Types of technical reports
XIV.4.1 Technical background report
XIV.4.2 Instructions report
XIV.4.3 Feasibility study report
XIV.4.4 Recommendation Report
XIV.4.5 Evaluation report
XIV.4.6 Primary Research Report
XIV.4.7 Technical Specifications
XIV.4.8 Report length proposal
XIV.4.9 Business prospectus

XIV.5 Characteristics of Technical Reports,
shape and size, content, facts, sources, documentation, target readers, titles and subtitles, physical arrangement, graphics.

Questions
Appendix
Model speeches
Chapter I Communication Skill

I.1 Introduction

Good communicators are born or made? When we say communication skill, it implies some formal training or efforts to attain the same. Is communication an art or a science, or combination of both? Communication is a form of expression. An infant is a new comer to the world. For about one year, it is not able to speak but, it starts communicating with the mother and others. It has to convey its hunger, likes, dislikes, pleasure, comfort, discomfort, mood, etc. It starts communicating on its own way, by facial expressions, lip movement, glowing eyes, movement of hands and feet. In the absence of ability to speak and knowledge of any language, it conveys its message, sometimes by weeping, smiling or creating typical sounds. Physical appearance is something different but, irrespective of physical appearance, some infants are liked by the people and fondled by all. Some infants are not very much liked by the people. That is the birth of the art of communication.

After one year or so, the child starts learning verbal communication. It is not able to express properly but, still we like to hear it. We enjoy its effort to speak and express. It is more supported by gestures. Mother of the child understands it in a better way. In engineering terms we call it frequency matching and impedance matching. We appreciate and encourage the child. Depending upon environment, some children start talking earlier and some start later. The first language the child learns is the language used in the family, particularly by the mother. It is called the mother tongue. We call it inheritage or culture but, it is more decided by the language used by the family and close relatives. Some near ones teach good things and some near ones teach bad things also.

At the age of five or six years, regular schooling starts. Some of them attend the schools teaching in regional language. Now a days, the trend in educated and well to do families and sometimes for competition and prestige also, the children are put in English medium schools. Some of the schools are really English medium schools and in some so-called English medium schools, even teachers are not familiar or comfortable with English. Any how, the child starts learning alphabets and formally learns regional and or English language. In the street and school, it meets other children and starts communicating with them in the concerned language. In some families, the communication language at home is different than the medium of instruction at the school. For such children, it is difficult to cope up at the school. They suffer from inferiority complex. Some children have good adaptability. They can handle both the situations. Then adolescence starts. They come in contact with different people, at different places and time. They learn many things from the surrounding and by their behavior leave some impression on the others. The natural beauty comes from the skin colour, features and structure of the whole body. People are tempted to see such persons. But, there are some people for whom the God is not so generous in allotting these attributes. Inspite of these natural limitations, some
people are attractive, charming, graceful and glamorous. You like to meet them, talk to them, see them, work with them. Here comes communication, communication skill and art of communication.

In a broad sense, communication also means spread of information or transmission of data. When writing and printing were not known, then also teachers (Gurus) were teaching the disciples orally, and the knowledge was transmitted from generation to generation. Knowledge of “Vedas” and “Puranas” has transmitted over hundred of decades. The shlokas (poetic) version may be more useful in remembering. Later on they started writing on leaves. During the days of Samrat Ashok writing on rocks ,“Shilalekh” conveying good messages became popular and today we have many modes of storing and communicating the information. Telephones (land line and mobile), wired and wireless communication, audio and video communication, storage and transmission of information via computer memory, tapes, CDs, internet, intranet, VOIP, satellite communication are the various options. These modes have changed the pattern of trade, business, education, and medicine too, by telemedicine. But, this communication is different from the personal communication with which we are concerned here.

Language or wards may be involved in communication but, that is not the barrier in communication. It is only useful for verbal communication. But, there are many other modes of communication. Deaf and dumb persons also express themselves fluently. Kathak dancers convey the whole story and message by ‘Mudras’. Laurel and Hardy entertained people for decades without speaking a single word. Even for those who can speak, overall communication is not just verbal or oral expression. It is supported by facial expressions and body gestures. Just saying “pleased to meet you” is not sufficient. The pleasure should be apparent on the face. Without expression of regret saying “sorry” has no meaning. If you are welcomed by somebody half heartedly you can notice it. When we are angry, the words are supported by fire balls in the eyes. When we put special efforts by force, the teeth come closer, facial muscles are stretched. When we pray, our face is calm, the eyes may be closed or as calm as pond water. When a mother fondles a child, words are full of love and her hands move affectionately on the body of the child. When the saint blesses or greets the group of disciples, sometimes the hand is raised formally. For the selected disciple the saint (Guru) puts his hand on the head or back of the disciple. It inspires confidence in the mind of the disciple. He feels relief from pain and misery. It is a popular healing technique. When somebody is going to appear for examination or interview or some important assignment, parents and relatives give blessing by words of good wishes and putting hand on head, shoulder or back. It increases the confidence level. Friends also convey best wishes and we are full of confidence and ready for taking the challenge. When a soldier goes to the border the tilak by his wife charges him with bravery to face the enemies. When a young boy and girl meet or just cross, initially they may not have the courage to say any thing. The eyes just cross. The eyes and facial expression can convey different messages from time to time. The message may be to ignore the other person, greet the other person,
displeasure to meet, invitation to meet again, expression of fear, expression of being ashamed, there may be change in rhythm of heart also.

Communication is not only language and richness of vocabulary. It is not important what you speak but, how you speak. Communication changes from person to person and from level to level. When a child communicates with the mother, it has no fear. It has a feeling of right. It is taken for granted that whatever it speaks, whatever way it speaks or whatever it demands, it is accepted by the mother, that too, with love. Mother always communicates with the child with love and affection. The image of a father is slightly different. Whether he wishes or not, he has to play his role with more responsibility. Due to this tradition, sometimes the child hesitates in communicating with the father. There is a lot of difference in communication from a friend to a friend, friend of opposite sex, a student to a teacher, a teacher to a student, a disciple to a Guru, a Guru to a disciple, a colleague to a colleague, a worker to a supervisor, a supervisor to a worker, the staff in an office to a superior, the superior to the staff, the employees to an employer and an employer to the employees, a union leader to the staff and a managing director, the police to the public and the public to the police, the speaker to the audience, an election candidate to the voters, a news reader to the viewers. The point is that the doctor cannot prescribe the same medicine to all patients for all ailments. The communication should change from person to person, with level of the persons involved, the time of communication, the objective of communication, mutual objective of the two sides, the authority and the authenticity of the persons and the situation. The communication may be between persons of the same level or different levels. The communication may be from one person to another person. The communication in case of a teacher, a public speaker, a news reader or an actor may be one to one or all. It may be one way communication in distance learning, radio / TV talks or public speech. In classroom teaching, when it is interactive, it may be bidirectional. In classroom teaching the teacher and in drama the actor is able to see the expressions or response of the audience. In case of radio talk and TV show the speaker is not able to see the response or expression of the audience or viewers. It also affects the effectiveness of the communication.

I.2 My experience with communication

I taught for about 32 years in government engineering colleges through English medium. There, the number of public functions was limited. There was little exposure for me to public speaking. I could write, publish and present some technical papers. That developed my confidence but, in technical papers much stress is not given to language part or communication skill. We have to follow some fixed structure and cover technical details.

Later on I got the opportunity to work as Professor and Head of Electrical, Electronics & Communication and Instrumentation and Control engineering (combined EC, IC, E) department at Nirma Institute of Technology, Ahmedabad. It was a challenging job
and I think that was the turning point in my career. The main thing is that I got a good platform to practice my written and oral communication skills. I feel, all good communicators may not necessarily be born, they may also be made.

At our institute, we had about 15 students forums. In our department we had ISA (International Society of Automation, International body of instrumentation and control professionals) student section, IEEE (Institute of Electrical and Electronics Engineers – International body) student sections, ISTE student chapter, ECO (Electronics Student Organisation), and EESA (Electrical Engineering Student Association). These student forums arranged a lot of student activities and national level technical events. After first year admissions, we used to start with one full week orientation programme. On the first day, usually heads of departments and the principal/director address the students and guardians in separate sessions. Later on, senior teachers and professional experts talk about various life skills. At our institute and particularly in our department, we arranged a number of national level teachers training programmes. In all these student and faculty programmes, there were inauguration and valedictory functions on a big scale. As head of the department, frequently I had to address the gathering. Initially I had little exposure of public speaking. When I had to give a public speech, I was under tension, my heart beats would increase, there was a pain in my spinal chord. But, since long, I had developed a good writing skill. At Nirma Institute, due to practice my writing skill had improved a lot. I could write a good speech. Gradually I developed a habit of delivering a good speech. I used to have ornamental script. In the same sentence, I used number of words starting with the same letter. It added rhythm to the speech. I also used many analogies in my speech. Earlier, I was afraid of giving speeches but, I became more and more comfortable with the public speech. Some of my friends said that they enjoyed hearing my speech. It encouraged me. I started preparing my speech in advance and delivered them very effectively.

I.3 Teaching and Communication
Each profession requires a typical communication skill. In the teaching line also, communication skill is important. If you have good communication skill, you can impress the students. Your first impression in the class is the last impression. Once you are accepted by the students and settled in the class, you can teach the students in your own way. Particularly, when a teacher is a new one, just starting the career, some of the students may create some disturbance to test the teacher. The teacher should not lose the temper. He should handle the situation trickily. Some teachers try to go for cheap popularity. They crack jokes in the class or start shayri in the class. The teacher is not expected to entertain the students like this. During the lecture, related to the topic, he can give some illustrations and analogies, which may be humourous and make the lecture lighter. It is said that, in lectures the concentration can be maintained only for twenty minutes. Our engineering lectures are one hour lectures and that too, full of facts and figures or theories. So, the lectures become very heavy.
In teaching, the strength of subject knowledge is supported by good communication. When you speak, the pronunciation should be clear. In engineering subject teaching, much of grammar is not involved but, still you should not make any grammatical mistakes. Your voice should be clear and consistent. It should not be so low that it may not reach the last bench. It should not be so loud that it disturbs the neighbouring class. Voice is a natural gift but, partly you can train it. It should be soft and smooth. It should not be hammering. When I was studying for my undergraduate degree, there was one senior teacher. He was thorough in the subject but, any how his voice had some typical problem. It hammered on our minds. We were not comfortable with his voice.

The teacher/speaker should face the students/audience and keep eye to eye contact with them. Just delivering the speech like a news reader is not effective communication for the teacher or a good speaker. While delivering the lecture your mind should concentrate on the speech. So that, you do not lose the track of the subject. To support you, points are available on the board, a transparency or a slide. At the same time, your eyes should be able to see the whole class. Looking at the students face to face and maintaining eye contact will inspire confidence in them. Their faces will reflect whether they are understanding your lecture or not. Some students are fond of nodding their heads, indicating that they are following the topic. Sometimes it may be misleading also. Some students node heads without understanding, just as a habit and just nodding the heads by first two three benches is not sufficient. The eyes of the students convey their curiosity, interest and understanding as you proceed. Some times, their facial expressions indicate that you are teaching but, they are not able to follow it. If necessary, in between you ask and confirm whether they follow or not. Repeat some part, when necessary. In the beginning of the lecture, usually the content of last lecture should be reviewed in two to five minutes and at the end the lecture may be summarized in two to five minutes. While teaching, jokes should be avoided but, some lighter illustrations or analogies can be given, to avoid concentrated doze of lecture. In between, some questions may be asked to check their understanding. Sometimes at some regular interval, try to derive the same thing, which you are going to speak, from them. It may keep them alert. Sometimes, during one hour lecture, particularly after the lunch session, some students start dozing. One philosophy says that interactive sessions are good. If we make the whole lecture interactive, the speed of coverage may be reduced. At the end of the semester, the teacher may feel shortage of time and syllabus may be incomplete, which is not desirable. The interactive system requires that the students know the topic to be covered on the day, they have the reading material and they have gone through the material, so that the interaction is possible. In IITs, students come prepared and the system may work, as they get bright and career oriented students and there is proper computer and internet/ intranet facility for bidirectional communication between the students and the teachers. In majority of the institutes all over India, some of the facilities are not possible, level of the students is different and most of them are ready for spoon feeding only. Moreover, for expert lectures or special lectures by some
professionals, this system may work. Because, they have no worry about coverage of syllabus, their subject matter is usually repeated for different audience groups, at different places and times. Some of the professional speakers are very professional in their speech. They hardly cover or present much of the material. They are conscious about the marketing of their image and programme. The detailed speech is usually on payment/registration basis. A poor teacher hardly gets rewarded for his intellectual property, even if he develops innovative speech, innovative presentation or innovative course material. Moreover, I have observed that with the average mass of students which we get in common educational institutes, it is very difficult to have interactive session through out the one hour period. Just for a change and to make them alert you can ask some questions after fifteen-twenty minutes, for one or two minutes and restore the normal teaching session. If we try to proceed in question-answer interactive mode the first difficulty is that the students are not mentally and academically prepared for the same. If you ask the question, the students start replying simultaneously in a group, instead of raising hand and speaking one by one, as asked. In this mode it generates a lot of murmuring, noise and disturbance in the class.

During the lecture, the teacher should keep eyes on the whole class. Sometimes, the front line students listen attentively but, on the backside there is a lack of concentration. In earlier days the trend was that the bright students used to sit in the front line and some less interested students used to sit on the back side. Now a days, we have observed a new trend, first benches may be kept vacant and rear side is over crowded. Even bright students prefer to sit on the back benches. I don’t understand the logic. Sometimes the back benches may be the center of nuisance for new young teachers. Some students are not able to concentrate in the class. At times, they create some nuisance for the junior teachers by murmuring or specific comments. Usually they ask question for the sake of asking or to show their importance.

The students may take advantage of non familiarity with them. If you start knowing all the students by name and if the students know it, they will not take chance of any adventure in the class.

I.4 Process of Communication:

It is basically a process of expression. In our day to day life, at home, at office and in public life or public dealing, we have to express our thoughts, opinion, share our experience, convey our requirement, our feeling, our decision, share our knowledge with others and like that there may be number of interactions. The interactions may be one to one, one to all, all to all. In these interactions, it is necessary to share or spread the information. This sharing of information may be oral, by gesture or by combination of oral communication and gestures or may be written. In written information, it may be hand written, typed, printed, Xeroxed, it may be in soft form, also. The Print form covers printed pages/books, handbills, leaflets, brochures, journals, magazines, newspapers, etc. Now a days, mobiles, computers, internet and websites have brought explosion of
information. Mobile phones again, have modes of oral communication, visual communication by SMS and MMS. With computer, it may be CD (Compact Disc), email, text and pictures, website, VOIP and other such modes. With this explosion of information, all the information available is not useful or relevant for a specific person and purpose. Most of it is a junk data. Through search engines, when we search for any topic, there are hundreds or thousands of references. There are some agencies, sending unwanted information for marketing or other purpose. All this is not useful information for us. So, screening the information and converting it to useful information is a tremendous task.

I.4.1 Communication Process

The process of communication may be open loop or closed loop. For effectiveness, closed loop is desirable. It starts with a sender. The sender of the message is the origin of the message. It may be in any conventional form: verbal, non verbal, personal talk, telephonic talk, email, SMS, TV talk, class room talk or a public speech, a letter or a book. So, there is a speaker and audience, writer and receiver or a reader. There is a presenter and viewers. In any communication, matching of sender and receiver is necessary. In case of oral communication, both sides should be familiar with the language used. In some international meetings or conferences, interpreters are provided. In case of classical musical concert, the audience should have some knowledge or interest for the same. In class room teaching, when attendance is made compulsory, sometimes some of the students have no interest in the lecture. In a classical dance programme the performer depicts by movement of hands, feet and facial expression, called “Mudras”. If the viewer has no background of classical dance, he can not understand and appreciate the performance. In class room teaching there are some prerequisites. When we teach at higher semester, necessary background may be covered at lower semester. So, if somebody has not cleared that prerequisite requirement, he can not understand the lecture. For understanding and appreciating the communication, interest in the speaker/presenter is necessary. The medium of communication should be familiar for both parties. There should be proper background for the communication.

The message or communication is generated by the speaker or the performer. He selects proper medium. It may be an oral speech, verbal communication, gestures or combination of verbal and non-verbal communication. The verbal communication is in some specific language. The speaker or performer is a transmitter of the communication at the input end. It passes through some medium. In physical form the transmission of message may be local or distant. Audio and video links can be used for the transmission.
It may be wired or wireless link. This link is the carrier of the communication. In electronic communication, the signal is mixed with a high frequency signal, called carrier, to avoid noise and distortion. In day to day communication, sometimes stories or some illustrations are used by wise people and saints, to transmit morale or advice. The communication is received by the other party. In one to one communication, in a classroom and in a meeting the communication is received by the other party locally and directly. In case of distant communication by telephone, mobile phone, radio, TV and internet, electronic hardware and computer software are involved for the transmission and interpretation of the information at the receiver end. It is a physical process. At physiological level the individual receives the communication using one or more of his five senses. The mind analyses and interprets the information and decides the course of action to be taken. The response of the receiver indicates, whether the communication is received or not. The response comes out as a feedback. In a classroom teaching, the eager eyes of students or their nodding heads, indicate that the communication of the lecture is effectively received by them. By interaction or question answer session also the response and reception can be checked. Good speech by a public speaker or a good performance, is appreciated by the audience by smiles, laughter, clapping etc. It is the feedback, encouraging the speaker or a performer. A boring speech or performance results in murmuring, shouting, throwing of arrows or some articles and outflow of audience. There are formal and informal modes of feedback, without which effectiveness can not be improved by taking proper corrective steps.

I4.2 Types of Communication
Basically four types of communication are considered. They are assertive communication, aggressive communication, passive communication and the fourth type is the combination of last two types. It is called passive-aggressive communication.

I4.2.1 Assertive Communication:
This type of communication reflects transparency on the part of the communicator. It may be assertive. The speaker tries to convey what ever he feels and means. What ever is in his mind, it is conveyed. This is the desirable form of communication and it may be very effective, with reference to the purpose for which it is made. Some people think differently, act differently and in public they speak differently. This type of people may not be reliable. People with assertive communication are frank, there is no hidden politics. They do not play with the feelings of the others. They are not involved in manipulations. Assertive communication helps in developing mutual confidence. The intentions of the communicator are well defined. The plus and minus points are frankly discussed during the discussion or negotiations. In this mode, it is easy to come to some common conclusion, without hurting the esteem of either side. This style of communication should be practiced by all, at all level. But, reality is different.
Everybody has his own vested interest and he likes to override the other side. It pollutes the environment of communication.

I 4.2.2 Aggressive Communication:
Effectively aggressive communication becomes one way communication. The concerned person thinks that he is right and others are wrong. He is not willing to hear the other side. He can not appreciate the points presented by the other side. Between parents and children usually there is a generation gap. Due to different background and exposure, their ideology will be different. Parents may try to force their ideas on the children by aggressive communication. In the extreme case, their language is threatening. At the time of choosing the career or marriage partner, such issues become critical. Sometimes, it may break the relations. In offices also, the general philosophy is that boss is always right. He will communicate aggressively, to force his ideas and line of action on the employees. Even in departmental meetings, others have practically no say. Boss dictates what he wants. In personal relations also, when one side is dominating, it tries to suppress the other side by aggressive communication. Immediately, it may give satisfaction of establishing the authority or dominance but, in the long run, the employees lose respect for the boss. They will obey till they are helpless. They may revolt, if they get opportunity. In personal relations also, aggressive communication is insulting to the other side. Sweetness of the relations is lost. The relation is just pulled on, without any interest and harmony. It is not healthy for the organisation or society. In sports and other competitions some people use aggressive communication. They may not be right but, just by aggressive appeal they try to get the decision in their favour. In cricket it is observed frequently.

14.2.3 Passive Communication:
When a person is of compromising nature, he will avoid the conflict. He knows that the other side is wrong but, he is not challenging. Some people consider this as a good characteristic, some people consider it as a surrendering approach. This type of approach is compared with a teacher who neither teaches nor punishes. He is inert about the approach of the other side. In some cases, it may be over obedience. You are always ready to accept the otherside or seniors. You have no voice. Such person communicates a little, he usually prefers to hear and accept the directives of the boss. We can call him “his master’s voice”. Such tendency is taken as weakness. The otherside becomes stronger. It encourages the boss to become autocrat and for that we are more responsible. As some people are passive in communication, they also become passive in work. As they can not react, they will try to be away from the eyes of the boss. They do not take any initiative and efficiency of the system goes down. Boss thinks that every thing goes well and one day the organisation may collapse.

I 4.2.4 Passive-Aggressive Communication:
Some people are smart or calculative. When the situation is not in his favour, he is a passive communicator. He says "yes" to the word of the boss or a senior or any body else. People think him to be obedient, compromising and ever agreeing person. But, he is surrendering under a particular condition. He is waiting for the opportunity. When he gets promotion, gets support of other people, boss is in a fix due to his limitations. This type of person will suddenly become aggressive. In a public meeting courageously he conveys what he wants and puts the others in awkward position. He exploits the situation. Similarly, a father can suppress the son till he is not grown up or not independent. As soon as the son gets the job and father retires, his aggressive approach starts.

In general, any one mode of communication may not be successful at all times. The strategy depends on your position, power, position and power of the other side, your limitations, your vested interest in the situation, interest of the otherside, supporters in your favour or your opponents, the place and time. The same person may employ different styles of communication at different time, place and situations. Those who are not able to change their style dynamically, may loose also. It is the inherent characteristic of the person deciding his attitude and altitude.

1.4.3  **Levels of Communication**
As human beings we are required to communicate at different levels. It may be extra personal communication, intrapersonal communication, interpersonal communication, organizational communication, professional communication, mass communication, self communication and communication with the soul and God.

1.4.3.1  **Extra personal Communication**
Generally, we are concerned with the communication, with human beings at different levels and in different forms. But in some cases, communication with other animals is necessary. They may not understand our language but, after training, after experience or after a long association, they can understand our instructions by some sounds, words or gestures. They also understand and share our feelings of joy, sorrow, etc. and may respond to our feelings of hatred, anger etc. The animals in a circus, follow the instructions of the ringmaster and follow them, to carry out some actions. Domestic pets also, follow our instructions. Domestic pet dogs, cats etc. express their mood, hunger, joy, sorrow etc. by typical sounds or gestures. We are familiar with the tail movement of a dog, bowing down with front legs, nodding the head, staring at you with eyes full of love, barking at strangers. Without understanding the meaning and without worrying for situation or irrespective of presence of any body, a parrot can repeat somebody’s words. To grasp the movements, the animals in a circus undergo special training. Domestic pets get training by repetition, experience, familiarity and affinity. So, basically some form of tuning is necessary between the trainer, owner or instructor on
one side and trainee or pet on the other side. Some animals have fast and better grasping compared to other animals.

I.4.3.2 Intrapersonal Communication:

Our body has a brain, as the super controller and super computer system. The body has a well distributed network of nervous system. During the whole day and for the whole life time, our activities are controlled by the brain. For some activities, the programming is done in advance. For beating of the heart or for respiration or for digestion of the food we have not to think. Certain activities are done autonomously. Of course, some of these activities can also be controlled consciously. But, we will not go into the details of that. We have five senses and related sensors. Eyes to see, ears to hear, tongue to taste, nose to smell, and skin to touch and feel. Our body is accustomed to certain environmental conditions. With reference to change of external conditions, the five sensors and nerves spread throughout the body send the signals to the brain by bio receptors and transmitters. The body has the inherent regulation to maintain the bodily parameters and attain the comfort level. Different people with different background have different tolerance level. Some of them can wait for the inherent regulation and some cannot. They immediately restore to external supporting devices and appliances to attain the comfort level. It may be use of fan, or airconditioner, heater, umbrella, music system or anything else. In response to external disturbance, the sensor senses, the nervous system sends the signal to the brain, which may take internal and or external corrective action. Basically it involves inward and outward transmission of signals, which is internal communication within the body and with the brain. When we are interacting or interfacing with the external world, some external communication is necessary but, at the same time internal communication is going on within the body of a person. It is intrapersonal communication.

I.4.3.3 Communication with the soul:

The external communication is done by our body. For the physiological well being of the body and to carryout the physiological functions intrapersonal communication is carried out, which is also physical communication but, it is neither visible nor audible. There is one internal communication of a slightly higher level. Instead of considering oneself as Mr. X dealing with Mr. Y, an individual is considered as a soul. Soul is considered to be the gift of god, it is pure and peaceful. It is beyond the feelings of the physical body. As a soul, when an individual isolates himself from its identity as a physical body, he is beyond the short time feelings like physical joy, worldly happiness, sorrow, grief, anger etc. This super channel communicates with the brain in a different way. The transient wild disturbances are filtered out. The transient responses like excitement, anger etc are suppressed. It results in new dimensions of maturity and balanced behaviour. It results in a peaceful mental stage. In the present age of challenges, competitions, uncertainties and tensions it brings peace of mind. The decisions and reactions under these conditions are more matured and can help in improvement of interpersonal relation. At physical level also, it is observed that meditation and spiritual
approach relieves the body of the stresses and strains of the present day hard and fast life. The heart rate and blood pressure settle to normal rate. The respiration rate also stabilizes. Body resistance to external disturbing forces improves and a person enjoys a good health and peace of mind. Prayer is the communication with God or super soul.

I.4.3.4 Interpersonal Communication:

Human being is a social animal. In a day to day life, he requires close communication with many people. This category of communication is usually one to one communication between two persons or communication in a small group. It is the test of our interpersonal skill and decides our success in life. Quality of communication is the reflection or relation between the persons. Good communication can generate friends and bad communication can generate enemies. In interpersonal communication, the number of persons involved is small, just like a family. They are physically located in a fixed small premises. During communications, there is a close contact among the persons. Due to physical proximity, they can employ all their senses for the communication. They can meet and see each other, they can hear each other, they can talk face to face, they can greet and shake hand, they can exchange smiles, they can express their feelings easily, check the feedback of their communication. In interpersonal communication due to limited members in the group and closeness within the group of members, the chances of miscommunication can be avoided. In case of doubt, personal clarification can be sought by either side. This type of communication is bidirectional or mutual and interactive. On the sender side there is a lot of support of gestures and facial expressions, which makes the communication more effective and on the other hand, the response of the receiver is very well felt by the speaker. There is a direct response from the otherside. So, separate arrangement for feedback is not necessary. Nowadays, due to our busy schedule, even within the family, communication gap may exist, creating many problems.

In interpersonal communication the number of persons involved is less but there is too much variation in the nature of communication. It depends on whether the persons are familiar with each other or not. The members of a family or of an office or a friend circle are familiar with each other. It is informal. It may be part of a daily routine or regular meeting of the friends. It may be dependent on the age, qualification, background, nature and interest of the members. On the other hand, in official meeting or business meeting, some times the communicators are not well aware about each other. External and internal purpose of the meeting may be different. This type of meeting involves formal communication. Each member may try to over take or override the other member. It requires a careful handling on both the sides. If the members are meeting for some common cause or interest the meeting should not break. The sales person may try to convince the other side by presenting the positive features of his product or proposal. But, if he is weak in communication he may be trapped during the communication and the negative aspects are exposed. Medical representatives, insurance agents, credit card agents and loan agents may succeed or fail by their communication.
I.4.3.5 Organisational Communication

In each organisation, there is some organisational set up. For example, in a University, it may start with a Chancellor, then Vice Chancellor, registrar, different institutes headed by directors, with in the institutes there are heads of the departments, section heads, faculty, staff and students. In an industry, there may be a director general, board of directors, managing directors, chief operating officers, engineers, supervisors and workers. Any organisation is not run only by controlling officers. It is run by all members associated with the organisation. The success of an organisation depends on the proper communication at different levels within the organisation depending on the purpose, time and level. There may be internal operational communication, external operational and personal communication.

I.4.3.6 Internal Operational Communication

For the operation or working of an organisation, some communication is necessary at the internal level. The organisations are run under certain rules and regulations. These are declared from time to time by the head of the organisation. For the newly recruited persons, certain conditions are stated at the time of recruitment. In a university, there are academic regulations. They are published from time to time by the vice chancellor and the registrar. This initial communication may be in the written document form. But, to arrive at the written document, the university has various bodies like board of studies, faculty, academic council, senate and syndicate. There are detailed discussions at these levels. For routine, day to day working again, the vice chancellor/registrar, head of the institute, head of the department, section head, etc. issue certain written circulars, give directives orally and in some cases ask for certain information. This information may be collected orally or in the written form. Now a day s, intranet is used for internal communication in both the directions. In the institutes, there may be weekly meetings to review the working and to plan further work. In case of an urgent issue, extra, urgent meeting of all concerned may be called or only concerned person or group may be called. In an industrial organisation also, meetings of directors, operating officers, engineers and supervisors are called.

I.4.3.7 External Operational Communication:

The working of the organisation also, requires communication with external bodies, external persons or stake holders. University requires communication with other university, university grant commission and the government. Technological university requires communication with All India Council for Technical Education (AICTE). Director of educational institute requires communication with prospective students, prospective faculty, external members of board of studies, the faculty and the academic council, suppliers of equipments, guardians, project funding agencies, R&D organisations and the industries employing the students. This external communication may be in written form or through e-mails. Sometimes there may be telephone talks.

I4.3.8 Personal Communication:
We are human beings. Within the organisation, when the people work together, there may be development of close friendly relations. It is necessary for healthy organisations. If the persons are sitting side by side for the whole day, just like two neighbouring machines, and depart in the evening, that is an unhealthy situation. But, usually the co-workers in a office develop personal relations. They work as members of a family. Apart from saying hi/hello they share their feelings, joy, sorrow, family problems. In addition to exchange of official information, there may be personal talks. For a building of a good organization, it is very much necessary. Personal touch among the colleagues and from the senior officer, helps in team building, developing mutual trust and inspiring confidence among them.

I4.3.9 Mass Communication:

This mode of communication is usually one to n, and value of number n may be usually large. It may be in an oral form or a written or a printed form or combination of the two. The mass communication may be local or distant. It may be, a general body meeting of share holders or an election meeting or general public meeting of a leader or a religious leader, an inaugural speech or an invited talk by an eminent speaker. Now a days, in some educational institutes also, at first year level, common classes of 200 to 300 students are arranged. The local address may be confined to a hall or a meeting ground. To cover the large group of audience, it requires the arrangement of podium with public address system like microphones and audio amplifiers. If the hall or the ground is very large, close circuit TV cameras and projection screens are also arranged.

Mass communication is not limited only to halls and meeting grounds. Now a days, mass media communication employs many other mediums. It starts with the newspapers, printed news bulletins at regular intervals, handbills, journals, books, audio and video cassettes, TV channels and TV shows, movies, SMS and MMS through mobile phones, internet, email and websites. Instead of print media e-journals, e-books, and e-library are becoming more popular. Earlier communications are more or less, face to face communication. In mass communication, bidirectional personal touch is lost. It is not possible without the medium of communication as the transmitter mechanism for the information. In many cases, the communication aims at creating awareness, creating favourable opinion, fetching votes, warning the public or attracting customers by popularizing the product or service. Now a days, entertainment has become the greatest business. So, commercial information is forcefully blended with the entertainment. The greatest disadvantage of the mass communication is that the audience is at the mercy of the middle man. The editors decide the menu. They can bias the information. Under this condition, the selection and search for proper information, consumes a lot of time.

Mass communication is characterized by three features. The spread, lack of personal touch and need of a gateway and a gatekeeper. Thanks to the technology of mass communication that the geographical barriers are wiped out. It can reach all corners of the world and all the persons covered by the interconnection. The major
limitation in mass communication is that usually it is one way communication, the speaker or a performer can not see the audience or the viewers. The online response of audience or viewers is missing in this mode. There is no scope for on line feedback and improvement. Teleconferences and distance learning programmes make some effort in this direction but, they are not as effective as local meetings or class room teaching. The other problem is due to the gateway and the gatekeeper. A news paper is owned by a company and the editor is the employee of the same. Policy of the company and opinion of the editor can bias the news. TV channels are also owned by different groups, most of them may be profit oriented. Internet medium and mobiles are not free from unwanted messages and advertisements. The TV programs pretend to entertain, when they find time from commercials. Theoretically, the audience or a viewer has some choice but, to operate the choice, he has to waste a lot of time. He is at the mercy of others.

I4.4 Problems of Communication:

Sometimes, communication creates problems. A deaf and dumb or a blind person is happier compared to a normal person. He does not get the communication but, at least, he is saved of some miscommunication. Our maximum problems are created by miscommunication.

Internal personal communication is usually tested by a game in management studies. The first person is given some information. He orally conveys that in the ears of the second. Second one conveys it to the third, fourth and so on, to the last one. Then it is checked that in the process of communication, what is lost or distorted. When a person receives the communication, he applies all his senses, the information goes to the mind and again he conveys it further. This acquisition of information, analysis or interpretation and further transmission depends on many attributes of the individual. The physiological condition, mental state, age, sex, qualification, experience, social background, affiliation, vested interest if any, thinking ability and finally the style of communication, makes a lot of difference in the transmission process of the information. The same is true for the receiver end of information. The efficiency of transmission and reception of communication are largely affected by personal assumptions, perception, backgrounds, inferences, individual bias and thinking capability. Some people do not know what to speak, where to speak and when to speak. If these three points are not kept in mind, a lot of problems may be created by the same communication.

I 4.5 Technical Communication and General Communication:

Why the technical communication is different than general communication? In technical communication, specific information is to be conveyed in a written or an oral or a visual form, to the specific readers or audience or viewers. Technical communication should lead to some conclusion for decision making or some action to be taken for a plant, process, person or a procedure. It should impart some concrete factual information. Just like medical prescription, it should be specific. Technical communication is necessary for an engineering student, engineering college teacher, researcher, guide, writer, editor of a
technical bulletin, a journal or a book, a website designer, and a training officer. It requires concrete output. The students are to be charged with knowledge, specific syllabus is to be covered, lecture notes may be prepared, a technical paper or a report may be generated, or a project proposal may be created. The output may be a printed paper, a bulletin, a journal, an e-book or an e-journal, a training manual, a laboratory manual or an operating manual for the equipment.

In general, day to day communication, we have a lot of freedom. Many general illustrations or stories can be added as carrier of communication. We can afford to be extravagant of vocabulary in general communication but, technical communication does not give that freedom. The general communication may be more colourful and entertaining. The technical communication is in black and white, without any ambiguity.

Technical Communication and General Communication:
As such, technical communication is not a separate category with respect to general communication. From our birth to death and morning to evening, we are concerned with general communication. For our day to day activity, there is a lot of communication from ourselves to others or outside world, and likewise many other people communicate with us during our daily routine or life cycle. Some of the communications are with specific purpose or some communications are casual. Some communication or sound may be heard, whether we wish or invite it or not. The advertisement on TV, mobile and internet are in that category. Starting from newspaper and TV news or radio, for our daily activities we are associated with many people at home, in the street, during transportation to the office and back and at the office. It requires a lot of communication. When we talk about technical communication, it is the application which differentiates it from general communication. In an engineering college, it may be for teaching, completing assignments, preparing technical reports, a seminar, a technical paper, B.Tech project report, M.Tech or Ph.D thesis or preparing an examination paper and answer sheet; or facing or conducting interview. The basic rules of communication remain the same. In general communication, we can afford to use ornamental language or we may be extravagant about use of our vocabulary but, technical communication aims at factual representation. It focuses more on the content rather than language. Constraints of grammar are not so important in technical communication. As mentioned above, technical communication has numerous applications and certain applications like technical paper in IEEE journal or transaction, M.Tech or Ph.D thesis has to follow a certain format and structure. It is more application specific.

Questions
1. Is communication an art or a science?
2. How an infant communicates?
3. What is meant by a mother tongue?
4. What is meant by communication skill?
5. Does communication skill depend only on vocabulary?
6. Why there is so much stress on communication skill?
7. What are the requirements of communication in teaching?
8. What are the tips for a good teacher?
9. Is interaction helpful in our teaching?
10. What is a process of communication?
11. What are the different forms of oral and written communication?
12. Explain types of communication.
13. Explain, what is meant by an assertive communication. What are its advantages and/or disadvantages?
14. What is meant by an aggressive communication? What are its limitations?
15. What is meant by a passive communication? What is the effect of passive communication in an organisation?
16. Explain, what is meant by passive aggressive communication?
17. What should be the strategy of communication?
18. What is the difference between technical communication and general communication?
19. Explain communication process as a closed loop system. Explain the significance of various links involved in it.
20. Enumerate the various levels of communication.
21. Explain extra personal communication.
22. Explain intrapersonal communication.
23. Explain communication with the soul.
24. Explain interpersonal communication.
25. Explain organisational communication.
26. What is internal operation communication?
27. What is external operational communication?
28. What is personal communication?
29. Explain the various forms of mass communication. What are its objectives? What are its main features?
30. What are the problems of communication?
Chapter II:

**Verbal and Nonverbal Communication:**

There are two broad categories of communication, called verbal communication and non-verbal communication.

II.1 Verbal Communication:

Communication is the exchange of information or message between two persons or among different people. Verbal communication may be face to face. The medium used may be sound, words and expression in a particular language. Verbal communication is also supported by sounds and emotional expressions like smile, laughter, frowning, clapping, staring, etc. A language consists of words, carrying specific meanings in concerned language. While speaking, we use words corresponding to the language being used. There are thousands of languages throughout the world. Communication is necessary for all of us. But, most of the problems in the world are created due to verbal communication, whether it is a domestic quarrel between husband and wife or other family members, dispute between neighbours, colleagues, employee and employer, politicians, dispute between religious groups; all these problems are initiated or aggravated by improper communication or misunderstanding and misinterpretation of the message. To control ourself under excited condition, or to stop the dispute, the best way is to observe silence for sometime. The communication may be one to one or to a group. Majority of the communication may be on a personal basis. The communication should be able to generate, nurture and strengthen the relations. It depends on the manners in personal communication, and in official communication, it depends on etiquette and protocols. The level of the persons communicating and the purpose or topic of communication is also important. The communication in an office, educational institute or a university and a business house, we have to follow some hierarchy in communication. In government offices, there are established channels of communication. It is like an upward and downward ladder. An employee can not talk directly to the top most office. He has to approach through intermediate officers. Some people have to deal more with public speaking. For a politician, the ability to attract, address, entertain large crowds is the ATM card for the vote bank. Government agencies require spokesman to inform and convince the public about their policies. Religious leaders address public to keep on multiplying the number of disciples and spread their philosophy. Marketing people require mass communication to increase the popularity of their products and services. They have to persuade the people to buy it.

II.2 Non Verbal Communication:

In a non verbal communication, other modes are used to express the feelings or convey the message or give information. It is related to the use of body language and gestures during communication.
II 2.1 **Artifacts:** It concentrates on external appearance of a person, coming from dress, ornaments, makeup, or some articles associated with the person. There are certain things by which people try to prove their identity different from others. It helps them in drawing attention of the people, to become popular. TV stars, actors and models have a typical appearance and style. Some of them have a typical hair style or a beard or a mustache or a pony tail or a typical dress. Bald head, spectacles, dhoti and a stick is the identity of Gandhiji. Short, rectangular mustache and small stick (band) in the hand with a military uniform is the identity of Hitler.

II.2.2 **Haptics:**

Another mode called haptics, involves various forms of touch. When a mother embraces the child, it gets feeling of unconditional, unlimited love and security. While meeting, there is a tradition of handshake. The touch, the pressure and warmth passing through the two hands, convey different feelings with different people. In a large gathering, when we have to meet large number of people, it is a casual handshake, just as a formality. Just acknowledging that we have met each other. Friendly handshake exerts more pressure at the hands, it is retained for sometime. It is the assurance of mutual feelings for each other. Similarly embracing each other, with the hands on the back of each other, conveys love and affection. To congratulate somebody, we pat with our hand on the back of the other fellow. Along with congratulations and appreciation, the fellow gets feeling of encouragement for the future. For consolation, when an elderly person puts his hand on back, shoulder or head of a person, he feels that there is somebody to care for him. He gets some relief in his moment of misery. When a religious leader, a guru, a father or a mother gives blessings by putting hand on the head we get a lot of inspiration. Kissing on the forehead, chins or lips is also used by different people to indicate the type and intensity of love.

II.2.3 **Chronemics:** It is concerned with the time schedule, duration, use and wastage of time. To prove their importance, some people are coming late in the meeting or a programme. Reporting the office in time indicates your sincerity and regularity is indication of carelessness. When an appointment is fixed, it is necessary to reach in time. It indicates your sincerity and respect for the other fellow. If you are afraid of the other fellow or if you have some business interest, you may go before time. If you go late, the other fellow may leave, to indicate that he is displeased or is not interested in an irregular person like you or you are not competent to waste his time. Waiting indefinitely may prove that you are idle, or you are afraid of that fellow or you have some vested interest or you just don’t want to spoil the relation. During the speech or communication, one who speaks to the point, takes just necessary time. A bad speaker with unplanned, irrelevant speech will spoil the time of all. An incompetent speaker is not well prepared, will not be able to speak for the specified time. So, time management reflects the
character of the person. Just like what to speak, when to speak is equally important. Timing of speaking or giving some particular information, has a lot of significance. Some people are over conscious about drafting, quality, typing, printing and presentation. In this process they may miss the schedule. If today’s news paper is published tomorrow, it has no significance.

II 2.4 Proxemics: It is related to the working zone, which may be defined physically or not. In most of the offices, the size of the office and the furniture increases with the status of the officer. For each employee, the working space is defined by the size of the office or cubical or some imaginary boundary. You can cross the territory of a junior or a colleague but, you can not invade the territory of a senior or a boss without specific purpose and permission. Similarly in a meeting, central chair is occupied by the chairperson and generally other members sit in a sequence as per seniority. So, there are some unwritten conventions, conveyed by space and location of the seat and it is the protocol. It may not be true but, for practicing doctors, lawyers, chartered accountants and other professionals or consultants, the level of the professional is judged by the size of the office, his chair, his furniture and the car he uses.

II 2.5 Kinesics: Among the nonverbal communication modes, artifacts, haptics, chronemics and proxemics have some limited use but, kinesics is most extensively used. Intentionally or unintentionally, it supports and strengthens the verbal communication, by conveying moods, emotions, internal feelings, likes, dislikes, joys, sorrows, when the verbal and nonverbal communication are matched. Some people are pretenders. They may be caught, if their verbal and non verbal communications are not matching. In effective communication, what you say is not important but, how you say is important. It depends on the quality of language plus the body language. We say, first impression is the last impression. Before you start formal communication, people start judging you. The attention drawn by you and the importance given to you, depend on the initial judgment about you, which is your nonverbal communication. During actual communication, you are continuously watched. It is the hearing with eyes. Particularly during personal interview, the body language and first impression play a critical role. We have a proverb: the characteristics of a child are learnt from the cradle and characteristics of a daughter-in-law are seen from the doorstep. For verbal communication we require permission from the otherside or formal initiation by saying hello or shake hand or talking about weather or cricket or some other current topic or inquiring about mutual health but, nonverbal communication is spontaneous. As soon as you see and meet anybody, the kinesics starts in the form of different gestures. For a frank person, these gestures are involuntary and natural. What ever we say may or may not be heard by the other person, sometimes due to language barrier may not be understood but, our body language is always captured by the other person. Even a small child knows to interpret your body language. Sometimes it is
possible to keep mum but, sometimes practically it is impossible to stop nonverbal communication. It is reported that verbal communication carries about 35 percent information and nonverbal communication carries about 65 percent information. There are various forms of kinesics. They are physical appearance, posture, gesture, facial expression and optical expression.

II 2.5.1 Physical Appearance: For a policeman and a military man we have a concept of a tall, stout person, with moustache and uniform, standing and walking firmly, talking in a strong voice. In all, it creates the feeling of authority. The thieves and cheaters will hide faces from them. A person with a strapped T-shirt and jeans is not matching with the image of a teacher. A painter, a poet or an artist may have a long hair, grown beard or unshaved face lost in imagination, wearing Kurta and Pajama. A political leader is wearing a dress as per the tradition of his party, the press reporters are seen with a camera, diary and pen or with some recording arrangement, in case of a media person. A lawyer is usually seen in a white pant-shirt, black coat and a tie.

II 2.5.2 Posture:
Different people have different style of sitting, standing and walking. It is a part of their personality. Under different physical and psychological conditions, the posture may change. It also depends on social economical, educational and cultural background. If a poor, uneducated, socially deprived, innocent villager is called for by an officer the villager presents himself in a pitiable position. His background is reflected by his appearance and posture. He will stand like a statue with folded hands and face bowed downward. He is just like a balloon from which the air is removed. For a professor in a college also, his bodily structure and posture helps him in impressing the students. If he spends more time towards the black board and faces less towards the students, it leads to disturbance in the class. Some teachers stand in such a position that the students recognize his lack of confidence. When the students ask question, some teacher puts his hand on the head or move fingers on the head, indicating that he has not anticipated the question or he himself is searching for the answer. In an interview room how you enter, how you greet, how you sit, every thing is important. Moving hurriedly in or out from interview room, not greeting, sitting without taking permission, sitting with legs apart or one leg on the other or sitting in resting position, swinging the chair in horizontal plane, all these are negative points.

II 2.5.3 Gesture: It may support or substitute verbal communication. Various feelings or thoughts are expressed by gesture. There are different conventions of gestures in different parts of the world, carrying different meanings. So, common understanding of gestures is necessary for either side. During our primary school days we had different hand gestures to request the permission from the teacher for small or long natural call or to go to drink water. To stop somebody from
Speaking in general or during oral examination, we raise (usually) our right hand. To permit the student or an interview candidate, to sit we move our hand in a typical form. To indicate a doubtful or a guilty person we use first finger of the (right) hand. To greet somebody with respect in India, two hands are joined and raised. Japanese people bow down to greet. In some countries or as per western tradition, hand shake is used. Military man greets the senior by taking the feet to attention position and by saluting. A leader or a celebrity acknowledges his welcome by waving his hand in air. During celebration of victory, the triumphant person raises the right hand or both hands and waves them with first two fingers spread in V form. Consent to some statement is indicated by nodding the head downward. Disagreement is indicted by movement of head to and fro in horizontal plane. Anger is expressed by staring with steady eyes with the tight face muscles. For bidding farewell also, hand with raised fingers is moved in air. While playing, to remain silent, children put first finger vertically across the lips. To refuse the demand of somebody in a lighter way, fist is closed and raised thumb is shown. When somebody seeks guidance about the road or direction, we extend our hand and point the direction by the first finger of (right) hand. If somebody goes on speaking and we are not interested in hearing, we close our eyes to show that we are not interested. Even a monkey, when annoyed, shows teeth. Putting hand on the shoulder is used for consolation. Hand on the back of the other person is used for appreciation. In a board meeting hitting fists on the table is a sign of protest. In Buddhism, there are different arrangements of fingers and hand called mudra, conveying different messages. In a classical dance also, movement of eyes, hands, feet, are used to convey different messages and depict the story or theme. In a family or our group, if somebody behaves in an irresponsible way and brings discredit, when we meet, we keep our heads bent down word. In movies, TV programmes and by prostitutes, some typical gestures are used for seduction. In general, youngsters and children express their feeling of love by a flying kiss, in which fingers of (right) hand frequently touch the lips and move away.

II 2.5.4 Eye Contact: Looking in to the eyes of each other conveys feeling of faith. It is said that when a person establishes eye to eye contact with another person, he can not lie. When a person tries to lie, he tries to saves his face, he has no courage to face the other person and see in to his eyes. Eye contact with unknown person of opposite sex may give the signal of physical attraction. For infants, eye contact of the mother is encouraging. During teaching, eye contact of the students is indicative of the attention paid by them. In the learning process, the eye contact helps in understanding and memorizing. In some religions, eye contact with unknown person of opposite sex is prohibited. In some cases avoiding eye contact is considered as a sign of respect for the religious leader or an elder. Here, eye contact is considered indiscipline. It is reported that a blank stare is a sign of lack of understanding. In some cases, eye contact helps in developing relations. If the other fellow is not making eye contact, it is presumed that he tries to ignore you.
In some cases, eye contact is used to threaten the other fellow. If you establish eye contact with some animal, it may take it as a threat and may attack you. In some cases, personal eye contact, if made intentionally, may be misleading. Excessive eye blinking is a sign of lying. Blinking one eye is a signal of conspiracy.

II 2.5.5 **Body Language:** Crossed arms on the chest, indicate that the person is of reserved nature or is not interested in the other person. The same pose may also indicate that the person is involved in deep thinking. During critical discussion this pose indicates sign of disagreement. In group communication, one to one contact is not there, so the response comes by way of body language.

II 2.5.6 **Facial Expression:** Human face has many muscles controlling its image. During the conversation the human face conveys many things. It reflects the internal feelings. Whether we wish or not, we can not usually avoid it. Emotions and expressions go side by side. Pleasure, sorrow, shock, anger, agreement, disagreement, fear, disgust, desire, greed, concentration, contempt, excitement, confusion, surprise, zeal, smartness, impatience, keenness, all these are reflected by the facial expression. It is assumed that the person has transparency in his personality. Some people are cheaters. They think differently and express differently. Some bosses are guided by the verbal communication of the person. There are many yes men, saying always yes to the boss in his presence. But, as soon as the boss is away, they start criticizing and disobeying. Some poor bosses are not able to understand such people. They consider them most obedient, reliable and loyal persons but, they may not be so. Such people may misguide the boss by their external expression, which is quite different than the internal emotions. In certain situations it is necessary to control our emotions. There, depending on time and place, we intentionally make our communication independent of our emotions.

II.3 **Barriers to Effective Communication:** The effectiveness of communication is affected by the intrapersonal, interpersonal and organisational barriers.

II.3.1 Intrapersonal Barriers
II.3.1.1 **Assumptions:** When we talk to somebody in the office, a family, a friend circle, a social group or a small group of students, we assume that all of them have same level of reception. We presume that they will think the way we think. But, it is not so. The teacher, teaching a subject, thinks that the topic is simple. The student may be learning the topic for the first time. He requires a lot of cross references or background which maybe sometimes missing. The teacher should think by sitting on the seat of the student. When we talk to a stranger or a person not familiar to us, we do not know about his educational, social, economic and psychological background. So, we go by some assumptions about the person addressed. If the assumptions are wrong, the message may not be well received by the otherside.

II.3.1.2 **Perceptions:**
The same object, when observed from different angles, may look different. For clear understanding of any thing, it should be viewed from all directions and analysed in all dimensions. During communication we may be biased. Whether it is a family, a friend circle or an office or an organization, there are certain beliefs that some person will be always right and on the other hand, there is a prejudice that the other person will be always wrong. Sometimes the assumptions are based on power, position, age and personal relation. Under the biased condition, the other view point is not accepted or appreciated. In general, from management side boss or higher officer is always considered right. The father always considers that the child is immature. In any system the change is opposed.

II 3.1.3 Background

As two human faces are not identical, the understanding of two persons can not be exactly by same. Our communication is based on hearing, understanding, analysis and interpretation. All these processes are affected by age, sex education, social and economical background, previous experience, training, profession, interest, place and time. As the background of the audience changes, the communication should change. We say, water flows from the higher level to the lower level and electrical current flows from the higher potential to the lower potential. So, the teacher should be more learned. The communicator should have more information. But, while communicating, we should be down to earth. We should go to the position of the listener to ensure proper communication. Sitting in a palace and talking of removal of poverty may not be convincing. In engineering colleges, the theory is supported by practical demonstration. Farming can not be taught only by teaching in the class room. At the first year class, where the students are coming from vernacular language background, hi-fi language of the professor may not be appreciated. While preaching a small village audience, the saint has to simplify his language and it should be supported by more illustrations. The same subject taught at diploma level or first year level, may have different content and delivery style, compared to teaching at final year or post graduate level. Sometimes over simplification is boring. Speak to convince and explain, not to impress them.

In a computer program, the programming language has one to one correspondence. In general language, some words have more than one meaning. It depends on the context. If it is not clarified, the message it is misinterpreted. Many a times the statements of some leaders are misinterpreted by the media. The next day, again clarification is required.

II 3.1.4 Thinking

Some people are overconfident about themselves. In a classroom teaching, when you discuss about fundamentals, the students feel that it is not necessary to be discussed. During viva or interview, when fundamental questions are asked, the students are not able to reply. During the flight, when the airhostess gives the safety instructions, the overconfident passengers neglect it, and in case of emergency landing they do not know
what to do. If you caution your son or daughter, about safe driving or other problems in life, they are not in a mood to hear you and when the situation arises, they may be helpless. It is easy to teach to an ignorant person but, it is difficult to teach to the person, who does not know, what he does not know and still thinks that he knows everything. More accidents are made by the people who know driving rather than those who do not.

III.1.5 Inferences:

We communicate with reference to a certain situation by drawing some inferences. When the officer is on a round and some staff of other department is talking with the staff in his department, the officer wrongly infers that the other person is instigating his staff. They may be talking something else. When you are passing and two of your friends are talking in a joyous mood, you presume that they are criticizing you and joking at you. When a mother in law sees her daughter in law, talking with the neighbours, she thinks that the daughter in law is complaining about her. In all these conditions, the communication may be the reaction under wrong assumption and may lead to explosion in relations. In laboratory experiment the teacher explains the theory, gives idea about nature of variation of parameters under different input conditions and the expected graphical variation between input and output parameters. The students are supposed to substantiate the theory by practical verification. They should not manipulate the readings and graph. If the readings are not taken properly then also, the graph may be wrong and may lead to wrong conclusion. If the student is aware about the deviation in practical condition, he can state that the present results are under given conditions, and there is some error or deviation from theoretical concept.

II 3.1.6 Imperviousness:

Due to our experience and training, we develop some belief. But, some people are very rigid. They are not willing to accept the other philosophy. Religious and political ideologies are examples of this. They are not ready to change with time and technology. When computerization and automations were introduced the labour unions advocated that it will lead to unemployment. In spite of concrete proof and well documented information, we are not ready to accept the facts. Ostrich can not stop the sand storm by putting its head in the sand. Due to rigidity of opinions, some people are not able to accept the change. The textile mills of Ahmedabad could not adapt to the technological changes and they vanished. Parents may think that the children are always wrong and the children may think that the parents are always wrong. This type of orthodox approach leads to clashes in communication. Under this condition, if the communication on either side is supported by logical arguments, which can convince the other side, and if the two parties are open minded to understand the logic, some conclusion can be arrived at. Otherwise, there is a quarrel and deadlock in communication or negotiations. So, intrapersonal barriers are psychological.
II 3.2 Interpersonal Barriers:

The barrier for intrapersonal communication is internal. The barrier for interpersonal communication is external. In electronic communication the effectiveness of communication is decided by the strength of transmitter and the impedance matching between the transmitter and the receiver. The other factor is the noise or interference. The person to person communication also, depends on the strength of the communicator, on the communication skill possessed and the ability to overcome the disturbing factors.

II 3.2.1 Knowledge of Language: When two native people are communicating, they know the common language. The communication flows easily, when we have to communicate with the outsider, he may not be familiar with the regional language. Under this condition, if both the parties are familiar with some common national or international language, the communication becomes possible. Language provides the medium for communication but, the communication is to be done by the individuals. By training they have to develop the skills of communication. Some people are even not able to communicate properly in their native language. The language supports the communication but, it does not solve the whole problems of communication.

II 3.2.2 Vocabulary:

In our verbal communication process, there are sentences made up of words. It requires a good vocabulary or knowledge of large number of words. At times, while praising somebody or expressing our joy on some success, we say “I have no words to express.” There we speak in modesty but, sometimes really we feel shortage of words. Initially it may happen in communication. Sometimes, we think in local language and try to express in English. In such cases internally we translate our speech from local language to English. But, once you develop your communication skill, it will become your hobby. You will directly think and express in English. Forget about thinking and translating separately. Get your ideas directly in the language in which you want to express, then, your tongue will not stick, searching for equivalent words. Your speech will flow directly and smoothly. When you are talking, do not think about the words used by others. You have to use your own language. You have to speak the language that will penetrate in to the minds and hearts of your audience. Otherwise, it will be artificial. It will be a dubbing done for some body else. Do not wait till you develop the vocabulary. Start communicating. Once you start with confidence, what you speak is not important but, how you speak is important. Actually, words only do not matter but, how you use the words, is more important. While practicing communication, you will know where you are lacking. Consciously try to build and enrich your vocabulary. Usually I advise my young friends and relatives that in the initial stage, to build vocabulary, read local language news paper first and then read English news paper. The vocabulary can not be developed by reading dictionary or encyclopedia. They can be referred only to clear the doubts. In written communication, whenever you have any doubt about the spelling of a word, do not hesitate in using dictionary. Sometimes our wardrobe has good collection of dresses but we rarely use some of them. You are not sure, how you will look in that
dress. Variety of dress adds to your personality. Similarly bring out the words from your vocabulary without any hesitation. For similar meaning, we have multiple choice of words. By use you know, which word is proper at which place. The choice of words also depends on place, time and type of audience. Depending on situation, there should be a variation in words. In condolence message we can not use colourful language. Some special words require careful arrangement of the sentence. If you have a very good vocabulary, you can play with the words. In one sentence you can use same or similar words for different meanings. In one sentence you can use number of words starting with same letter. But, first start how to stand, if you are comfortable, start walking, then jumping and finally running with your communication skill.

II 3.2.3 Mismatch of verbal and nonverbal expressions:

When we welcome or greet somebody, we say “it is our pleasure to have Mr. so and so here” or we say “pleased to meet you”. If the pleasure is missing from our faces, it has no meaning. When a defence minister says “we are ready and determined to face any challenge from the enemies”, his voice should be strong enough and his fist should be firmly raised in the air, indicating the strength and determination. His feet should not be shaking. The body language or gestures reinforce the verbal communication by nonverbal communication. If a boss has to fire the staff, it is necessary to raise the voice and pull the eyebrows. When we say sorry or regret, the feeling of sorry or repent should be there on the face. For the misbehavior, when the Director of the institute calls the guilty student with guardians, orally they say sorry but, the facial expressions are not convincing about oral or written undertaking. Why some actors of film or drama are all time great, and without experiencing the grief or tragedy, they can impress the audience by their acting with synchronization of verbal and non verbal communication. For effective communication, one should use the verbal and nonverbal communication along with body language properly. Otherwise, it may create miscommunication and may lead to negative effect. Physical appearance also plays an important role in communication. For a police officer or a military officer our concept is a tall, stout person with a moustache and strong face. As a lecturer in a teaching line reasonable structure and clear loud voice are helpful. Certain things are not in our hands. A short, thin body structure may bring more challenge for the lecturer, so far as class control is concerned. He has to compensate that by more preparation and technical strength. Dress also symbolizes our expression. Colourful dresses for joyful atmosphere, white dress for a condolence meeting, neat and clear, pressed dress indicates decency and dignity, Khaki or dark green colour of dress for authority and saffron for fighting spirit. Hair style of the person also conveys his nature. Wearing of chappals, sleepers, shoes – polished, unpolished, or damaged shoes / chappals or mojdi also conveys the characteristic of simplicity, fashion consciousness, carelessness, decency etc. Sitting, standing, walking and talking styles are also peculiar to different people indicating their nature, characteristic or mood. In a marriage you can easily discriminate between the father of a bride and father of a bridegroom. All these features require careful observation, understanding and interpretation. This process is instantaneous. Sometimes there may be misinterpretation also. But ,in general it provides
a good clue. Even it is said that handwriting indicates character of a person. Nowadays, some experts are available with this type of expertise.

II 3.2.4 Emotions:
Under certain conditions, the emotions help in communication. A good actor or an actress takes his or herself to the reality of the tragic scene and may bring tears in the eyes of the audience and may get sympathy of the audience. But, some times it appears unnatural. Tears by glycerin may be exposed. Once, the issue of match fixing in the cricket came up. While expressing on TV channel, one renowned cricketer burst into tears, to prove his innocence. But, in this process he could not express himself. If he could have controlled his tears, he could have presented his case in a better way. When some body retires and he has to convey his feelings, if he becomes emotional, he can not express himself. If there are some allegations against some politician and instead of defending with logical arguments, if he loses his temper, people may think that he is wrong. Some ladies use weeping as a tool to prove their innocence but, it may prove the other way also. During general discussion, some people can not control themselves. Their emotional transient response converts normal discussion in to a quarrel. In official discussion also, uncontrolled emotions of some people make it personal discussion and they enter in to personal allegations. Well controlled, natural emotions can strengthen the effectiveness of communication. But, short-tempered emotions or dramatic emotional expressions, when exposed, create negative effect. Some people believe that attack is the best defence. But, in aggressiveness, they lose the sympathy of others, even if they are right. In communication, politeness is desirable but, it should not put you on the role of a beggar. Sometimes, over politeness is exposed. The other fellow, if he is matured enough, understands that it is a flattery and nothing else. You can please some people, who are fond of flattery but, it may not work with all the people and at all the times. When some people are communicating like this, the other people hearing the communication, may easily know the vested interest of the concerned people In the long run, this situation is very harmful. When some people are irritated during the communication, the voice is raised unnecessarily. They create a bad scene of communication.

So, during communication one should control his emotions. A person should limit his voice, understand the difference between the politeness and the flattery, and should not convert discussion into a quarrel and should avoid dramatic emotional expressions.

II 3.2.5 Selectivity:
In oral and written communication, the selectivity acts as a filter. In electronic communication, we consider analogue and digital filters. Some filters, called the bandpass filters, are meant to allow the signal in a particular frequency range. The other type of filters is a band stop filters, which prevent the propagation of a signal in a particular frequency range. In general communication also, such selectivity may be disadvantageous to one or both sides. Students have the selectivity for examination
oriented study. If you try to teach the fundamentals or certain things useful for their future life or future career, majority of them may not be interested. In TV programmes, now a day s, there are plenty of advertisements. Some selective viewers will bypass the advertisement. From marketing point of view, the people without specific choice can be targeted but, selective viewers are missed. On the other hand most of the viewers consider TV only for entertainment. Educative, informative, religious programmes or channels can not reach such selective audience. In these cases the communicator transmits the message or ideas but, the selectivity of the audience or the viewer or the students limits the effective reception. Similarly, in a multidisciplinary conference, the speaker for inaugural speech, keynote address or invited speaker, should not be selective about his area of interest or expertise. On audience side also, the members of other branches should be able to understand and appreciate interdisciplinary ideas.

II 3.2.6 Disturbances:
In an electronic media like radio, TV, telephone and telecommunication, technology and cost play an important role. Just for cost effectiveness, if poor technology or inferior hardware is employed, it may result in lot of interferences. The audio and video quality and clarity are affected. There are frequent interruptions and loss of communication resulting in to discontinuity or poor communication. Unwanted invasion by advertisers is the greatest noise in multimedia communications and news papers. Even e-media is not free from this problem.

There are many physical modes of disturbing noise affecting the desired communication. In a class room, it may be the voice of a teacher in the neighbouring class room, for political meeting there may be a voice coming from another meeting in the vicinity or disturbance created by uninterested people, in parliament it may be disturbance created by the opposite camp, in a society it may be disturbance created by antisocial elements.

II 3.2.7 Language and cultural barrier:
Globalisation has opened the flood gates of opportunities in all walks of life. Education and business are not exception to it. The students, teachers or professionals going abroad should be familiar with the language of that country. In India, the national language is Hindi. For interaction at national level, knowledge of Hindi is necessary. At global level English language provides the common link for communication. For the research scholars also, English may be useful in searching the literature. For some specific research area and topic, knowledge of German and French language may prove to be a better edge. Due to British rule in India, English has become more popular and in this global competitive age, it has proved to be very useful. Chinese economy and technology are developing very fast but, at present less number of English knowing people is the greatest disadvantage for China. For the industry and business enterprise, interested in capture of foreign market also, the knowledge of language in the target country is necessary. Apart from language, it is also necessary to know the culture,
customs and traditions of that region. In different parts of the world, different forms of etiquettes are followed. If you do not follow it, you may be considered rude and may not be accepted by that society. There are different styles of greeting each other, in different parts of India and different countries of the world. There is a lot of variation of religions, festivals, dress, food, etc. from place to place. If your dress is different you are considered outsider. Politicians are smart enough, when they visit different regions of the state or the country they adopt the local dress code, to claim to be the son of that soil. When you go for sightseeing to some place, you are identified by your dress and language as outsider and there are more chances of cheating. The mall culture has invaded India but, to be successful, they should know the trade secrets of local hawkers or retailers and also, the psychology of local customers, otherwise it is very difficult to be successful. Indian customers want cheap and good things at credit, not with cash payment.

There are international chains of hotels and restaurants. They should understand the habits of vegetarians and non-vegetarians. Even for airlines, it is necessary while catering the food. Even among vegetarians, the concept of Jain food is being accepted by many restaurants and caterers.

II 3.2.8 Barriers of Listening Skill:

A good communicator should be a good listener first. Effective communication is usually bidirectional. We can speak but, we have to also, allow others to speak. For a mutual dialogue, listening is necessary. In hearing, only ears are employed. Whether we wish or not, certain things are heard. Inspite of our unwillingness, some times we hear the noise, we hear the abuses by others also. Sometimes, if somebody wants and we are not interested in his talk, we say “you can talk, my ears are open”. It is just a mechanical process of hearing. Listening is careful hearing. It is supported by the attention by the mind. If it is listened like this, the brain can collect some useful information, it may be analysed and it may be further utilized for logical answer or decision making. In data acquisition system, we consider signal to noise ratio. Signal should be stronger than the noise. Otherwise, useful information will be lost or distorted.

Some people are self-centered or arrogant. They enter into one way communication. They try to dictate their logic and don’t allow the other person to speak, or even if the other person is speaking, he is neglected. Without listening to the other person, we do not know his viewpoint. Without knowing the point, we cannot decide, whether it is right or wrong. The starting point of most of the quarrels or breaking of meetings is also, the absence of listening. At times, the two parties are excited under angry mood they are not ready to hear each other. In case of road accidents there may be minor mistake on either side and usually, it is unintentional. But, nobody is ready to hear each other and they start fighting. In case of any dispute, if one side is silent and listens to the other side silently, the dispute can be solved easily.
During listening, we should ensure the other side that you are listening to him. Proper listening may be indicated by eye to eye contact, smile on the face, periodic nodding of head or other friendly gestures. If somebody is disappointed, suffering from some problem, has got failure in examination or some important work, he requires consolation. If somebody is ready to listen to his miserable story, he will be relieved of his grief. If somebody has lost his father suddenly, he wants somebody to listen about the tragedy and friendly shoulder on which he can put his head and weep. If it is allowed, he is condoned without any words of condolence. A child requires the lap of the mother, where it can put its head, convey its problem and weep. The child is sure that the mother will listen and it is the greatest consolation on the earth.

II 3.3 Organisational Barriers:

In most of the organisations, there are set rules and channels of communication. It is called representation through proper channel. A staff member or a faculty in a government engineering college has to communicate orally or usually in a written form to the section head, the section head communicates to the head of the department, head of the department communicates to the principal and principal communicates to the director of technical education at the state level, with proper forwarding remarks. Similar structure prevails in private organizations, also. Here, there is no direct communication between the faculty and the director. The personal touch is missing. Number of intermediate stages, add to the delay. If the decision is not taken in time, it has no meaning. Each intermediate controlling officer puts his remark according to his understanding and interest in the issue. There is a full scope of bias at each level. In addition to official channel, there are some persons having direct link with the highest officer. Depending upon their interest, they further bias the issue. It also leads to corruption in some cases.

When the highest authority takes some decision, it is transferred via above channels in the reverse order. Again, during transmission, the message may be distorted. It is difficult to verify the original message. Sometimes, the intermediate officers take undue advantage of this communication gap between the staff or faculty and the highest authority.

II 3.3.1 Multiple Links:

In an office or in a day to day life, we use number of links for communication. Some of them may be in series and some in parallel. In transmission process, some information may be lost or distorted or biased. It depends on the educational, social, economical background of the person, level of the person in the ladder of organisation, his maturity, his understanding, his personal interest and the analyzing skill. When the communication passes through number of stages, the loss or distortion may be cumulative. Some smart persons, try to interpolate or extrapolate the information, which may be beyond their capacity or sometimes done intentionally in their personal interest, which may be disadvantageous for the concerned person. If the head of the institution
tries to take feedback about some senior person from a peon or some biased person, it may lead to wrong conclusion. Usually in engineering colleges, we seek student feedback for the faculty. Some students can give unbiased feedback but, some may be biased, too. In communication of information, some people apply their logic about useful or un-useful information. It is true that the head of the organisation can not communicate to all the persons directly but, the communication link should be foolproof and the persons involved should be reliable, capable and unbiased. So, selection of feedback links is important. Otherwise, it may bring wrong, distorted information, leading to the wrong conclusion. Improper links in turn, give wrong message about the policy of the management and may result in dissatisfaction among the employees.

II 3.3.2 Barrier of Fear:
For the prosperity of any organisation, friendly or family atmosphere is desirable. For a small growing organisation it is possible. There should be informal meeting of the employees with the employer or managing director. There should be periodic family get-togethers for the organisation. In this type of get-together the members should forget their positions. They should freely interact with each other. It helps in getting informal feedback from various levels. As the organisation grows, it is difficult for the top boss to keep contact with all the employees. Sometimes intermediate power centers are developed. They intentionally increase the gap between the management and employees. Fear is created about the top boss. Every body is worried about his security. Due to fear of firing, instead of true feedback, good feed back is manipulated at all levels. Due to lack of proper feedback, corrective actions can not be taken in time. Dissatisfaction accumulates among the employees, customers and all stake holders. One day the company collapses and there is no scope for revival.

There should be freedom of expression in the organisation. The top management has the right to take the decision and decide the line of action but, the employees should be heard and taken into confidence. It is not necessary that the wisdom rests at the top only. Nowadays, the youngsters have more exposure, they undergo better training and they have more time to come across latest technology and information. Fruitful suggestions should be invited from all levels. If found convincing they should be given chance of trial and useful suggestions should be appreciated and the concerned person should be rewarded or felicitated.

II 3.3.3 Contradictory forces:
In a larger organization, for proper functioning, formation of some sections is necessary. In an engineering college, there may be academic and administrative wings. On academic side there may be various departments like electrical, electronics, computer, instrumentation and control, civil, mechanical, chemical, textile, rubber-plastic, environmental, applied mechanics, etc. On administration side, there may be academic section, establishment section, account section, student section, purchase section, etc. The institute is not made up of one department or one section. Sometimes administration
and academic sections try to override each other. Among academic departments also, competition for development is desirable, if it is healthy. But, there should not be rivalry of each other or pulling legs of each other. If it is so each department or section is individually excellent but, the resultant output is zero. The image of the institution is developed by the outgoing communication from the organisation. If there are negative tendencies among the different groups, the reputation of the organisation may go down. It is the responsibility of the head of the institution, director or vice chancellor of the university to align the diverse forces and get proper resultant, for building and maintaining the reputation of the organisation. Otherwise, these contradictory forces act as the barrier to positive communication and growth of the organisation.

II 3.3.4 Barrier of Media for Communication:

Any organisation has to carry out a lot of communication, in the day to day activity or on special events. The information to be communicated may be descriptive, numerical data or combination of the two, as the alpha numeric data. In some industrial and other applications graphs, charts, histograms and tables are also, used. In this IT age, to communicate, display and present the information, plenty of options are available. e.g. post, speed post, telephones, mobile phones, fax machines, display boards, e-mail, internet, intranet, films, slides, transparencies, audio and video cassettes and CDs, computer presentations, websites, web seminars, newspapers, TV channels and TV programmes, press conference, teleconference, videoconference, etc. The choice of the medium or mode depends on the available budget, profitability, the target group, time and urgency to communicate, nature and size of the message, the competitors and strategy of the competitors. Telephone, mobile, e-mail and fax provide easy and faster mode of communication but, for official record purpose, hard copy of the letter sent through post or speed post or registered post is necessary. For secrecy and security purpose also, postal letters may be useful. For interview calls, telephones and emails are used for immediate access but, for proof of call and letters are necessary. For purchase inquiry also, combined mode may be used. Website may be checked by interested and pre-informed group but, specific persons or group can be informed by hard copy of leaflet. In e-media, better measures of secrecy and security are found but, on the other side hackers are smart enough to access your password and access your email, ATM or any e-transaction or e-document.

II 3.3.5 Explosion of Information:

In earlier days, the researchers had to rely on hard/printed copy of the references, restraining speed and size of accessed literature. Now a day s you give any search key and on clicking, there are hundreds of thousands of references. Large number of search engines and sources of information like wikipedia, IEEE on line, science direct, etc. are available. There is an explosion of information. Sometimes, it proves to be a garbage box. It is very difficult to screen and search the useful information. If you narrow down the search key, the list shrinks and disappears in some cases. Searching through the garbage box is a time consuming, tiring, boring, tedious process. Quantity of information
sacrifices quality of information. Marketing personnel from credit card, insurance and other agencies are intruding our private territory of information and entertainment, by way of unwanted advertisements and some bogus sites or calls and SMS on telephone, TV and internet. In office and business also, a lot of our quality time is wasted by unwanted calls and messages. It is an indispensible evil of IT age. Special softwares, hardware and extra persons are required to filter out print and soft forms of unwanted messages or information. It adds to the cost and efficiency of the system. So, proper reading and listening may bloom flowers for you, otherwise careless hearing may grow thorns for you.

II.4 Communication Across Cultural:
Globalisation has opened the flood gates of opportunities. At the same time, it has opened the windows for challenges. The world has become a global village. In earlier days, people hesitated to go to other city or state for the job. They were satisfied with the local opportunity. Now a day s for education purpose, many engineering students go to southern states and for higher studies they go abroad. Even for job, the national and multinational companies give the placement at a distant location and some times by choice people go to other countries for a job or expansion or marketing of the business activity. In general, communication is a big key for success. Many people reach the top position, by communication skill. In a country or abroad a person going for study, higher studies, business or marketing has to deal with cross cultural communication. Each region has different language, different religion, different festivals, different beliefs, different customs, different traditions, and different body language. In some cases, instead of expressing words, we express by some typical sounds. In different regions or countries the body language, gestures and sounds may have different significance and different meaning. At times, it may result in miscommunication, misunderstanding and a quarrel. When you go to some distant unknown place, it is necessary to learn these things. Otherwise, you may be put in difficulty. Some people use some sign language, if you are not familiar with the same, you can not understand it or may misunderstand it. In some international offices, some staff members have to use different languages with different people. He has to frequently switch over, from one language to the other. The background level of the persons may also be widely variable. In cross cultural communication, perception is very important. While communicating with the other community, we should accept the reality that there is some cultural difference. We should identify and accept it. During the international tour, it is observed that at some places the local business community gives better response to western tourists and poor response to Asian tourists. They weigh them by currency exchange rates. The cross cultural conflict may be mainly due to acceptable and unacceptable beliefs. Under such condition you should be able to identify the expectations of the other side. It is difficult to know them. Only by bad experience, we know about it. When NGOs (non government organisations) go on some mission in a foreign country they come across such problem. Understanding the cause of conflict is
difficult but, resolving it is much more difficult. For resolving the conflict, only a particular technique may be successful with one group, for another group some different technique may work. There are various forms of nonverbal communication: Artifacts, haptics, chromatics, proxemics and kinesis.

Questions:
1. Classify and enumerate the various barriers to effective communication.
2. Explain the various intrapersonal barriers in effective communication.
3. Explain the various interpersonal barriers in way of effective communication.
4. Explain verbal form of communication.
5. Enumerate the various components of non verbal communication.
6. With reference to nonverbal communication, explain the use of artifacts, haptics chronemics and proxemics.
7. Explain various forms of kinesics used in non verbal communication.
8. Discuss barrier of listening skill in way of effective communication.
9. Discuss official barriers to effective communication.
10. How multiple links adversely affect communication?
11. How contradictory forces affect communication?
12. How media acts as a barrier to communication?
13. How explosion of information is a barrier to communication?
14. Explain communication across cultures as a barrier to effective communication.
CHAPTER III
LISTENING SKILLS

III.1 Listening Process:

The human body has five senses. They are as follows: seeing with the eyes, hearing with the ears, smelling with the nose, tasting with the tongue and sensation by skin and under lying sensing by the nervous system. So, there are five senses and five sensors for the human body; which help the brain, the master controller for the human body. The signals sensed by the five sensing elements go to the brain, through the transmission network of the nervous system. The brain analyses the signals and sends the control signals again through our nervous system. The five senses collect the signals throughout the day and throughout the lifetime, unless we decide the otherway. This activity may be going on continuously, without any specific effort. The hearing through ears is one such activity.

Whether we wish or not, by default the audio or sound signals reach our ears, through hearing system, the brain finally receives the same. For hearing normal sound, special effort is not required, for not hearing some action is necessary. So, hearing is a natural activity for all human beings, unless somebody has the problem with hearing system. Even lower level animals also, have the hearing ability. Then, how the hearing of human being is different? Hearing is just a mechanical or physiological process. It does not require a special skill. Human being is gifted with a brain, having very high capability. The five senses bring a lot of useful information for the human body. In this reference hearing system is one of the important systems for inflow of audio information.

Hearing and listening are different. In a classroom, when the teacher delivers the lecture, all the students are able to hear it, so they hear it. But, all of them may not listen to the same. When a leader delivers a motivating speech, a saint preaches, the elders advise, it is implied that the other side hears it. But, all of them may not necessarily listen to it. Listening does not end with the physical receiving of the message. The received information is to be understood, to be interpreted and may result in some action or response. Response is the acknowledgement of the message. In addition to hearing ability, listening requires attention. It is called careful or attentive hearing. Along with hearing system, brain and nervous system are also engaged in the process of analysis of the information. So that necessary action can be taken or proper response can be given. It is said that those who are able to hear, may listen or not, because it depends on the willingness of the person. On the other hand ,a person with limitation of hearing, will be more attentive. He knows his limitation. His willingness motivates him for careful, attentive hearing. At the end of one hour
lecture the teacher has physically done his job of lecture delivery. His lecture is effective or successful, if majority of the students have listened him. It depends on the audibility of the speech of the speaker, ability of the speaker to draw the attention and grip them for one hour. On the student side, physically it depends on their hearing ability, but it depends more on the attention paid by them, which comes by their interest, background and level. Here comes the listening process.

All the speakers do not speak for the sake of speaking. They speak with some objective. The teacher speaks as part of the teaching learning process. If the student just hears, does not listen, he may not gain knowledge. He is the loser. If majority of the students are like this, the teacher may be frustrated, or disheartened, may be annoyed, also. In religious meeting, the preacher preaches but, if part of the audience comes only for physical attendance, they are the loser. If the advice is not listened to by the children, their life or career may be spoiled. Business meetings are usually for mutual interest, if any side does not listen or ignore the other side, it may affect the business relation and the business itself. In many cases, if proper persons are not sent to represent the organisation, it damages the reputation and interest of the organisation. In case of salesmen, insurance agents, credit card agents, TV or radio advertisements, by default large number of people may be hearing but, it is taken as a nuisance. Most of the people ignore it. If the advertiser is very smart or if the advertisement is made in the proper form, it may draw the attention of the audience, it results in listening and reaches atleast a fraction of the target group.

III.2 Requirement of Good Listening
The communication process is initiated by a speaker, it passes through the transmission process. It terminates at the audience as the reception. The success of the communication, depends on tuning of transmitter and receiver. TV and radio stations transmit or broadcast the programmes for the whole region, state, country or the world depending on the installed connectivity. The reception is decided not only by the sets connected but, the sets switched on and tuned to that particular station, channel and the programme. The hearing is a natural process coming by default, if the hearing system is intact. But, listening is a voluntary process. It is hearing plus many other attributes of the audience. So, listening is not just the use of hearing ability. When we say listening skill, it necessitates many other qualities and actions by the other side. Just like other skills, the listening skill can be enhanced by special efforts. It may vary from person to person. It demands certain qualities and actions from the listener to become a good listener. So, what makes a good listener or what are the requirements of good listening skills? The dos and don’ts for good listening may also depend on the speaker and the audience or the transmitter and the receiver.
**Acceptability:** In electrical system, we say that current flows from higher potential to lower potential. In a hydraulic system, water flows from a higher level to a lower level. When you accept somebody as a teacher, a guru or a guide, it is assumed that he is at a higher level of knowledge and he should be. In olden days and still in religious meetings, the seat of the guru is at a higher level and the disciples sit on the ground or at a lower level. This tradition symbolizes the acceptance of the teacher or a guru at higher academic or spiritual level.

**Interest:** Listening is not effective without interest. By making attendance compulsory for theory class or meeting, we can make the students or audience to hear the lecture or speech but, they may or may not listen. The purpose of the lecture is lost. In a public meeting, some people come to hear their leader, they will listen him but, there are some distributing elements, also. To stop the meeting, they may shout slogans, throw stones and physically harass the audience.

**Non evaluation:** Once the speaker is accepted as expert in the field, he should be permitted to communicate and should be listened as it is. We should not think about appearance, dress, character and ideology of the speaker. A good listener will concentrate only on the content of his speech or lecture. A smart speaker is able to read the minds of the audience by verbal and non verbal reaction and expressions of the listeners. While listening, the audience should not enter into assessment of the truth or quality of the statements. The listener may miss the track; the speaker may notice it and he may become uncomfortable.

**Uninterruption:** In a classroom teaching, interaction may be useful and desirable. But, some students are very impatient or fond of asking questions. The teacher plans his lecturer, a good teacher also envisages some questions or queries but, some students do not allow the teacher to complete the topic in his way and make unnecessary interruptions, by frequent questions and sometimes irrelevant questions. As a result, the teacher may be irritated or annoyed. In public meeting or general expert lectures also, unnecessary questioning, sometimes diverts the issue. Some professional speakers like it. They are paid for specific time of one or two hours. They intentionally convert the lecture to interactive session. Due to irrelevant questions and diverted issue, at the end of the lecture, the audience does not gain anything from the expertise of the speaker. The audience should be professional in getting maximum output from one or two hour lecture, relevant to the expertise of the speaker. First the speaker should be allowed to speak, should be understood and only if necessary, questions should be asked.

**Queries:** It is true that the audience may not be convinced about the concept or may not understand the theory taught by the teacher, in the first round. There is a proper way of raising the query. The queries should be raised politely. If the questions are not asked at proper time and in proper way it may prove arrogance
of the listener. It appears as if the listener challenges the authenticity or expertise of the expert. Sometimes, the intention of the query may not be bad, it may be just a casual query but, if it is not raised properly, the speaker may feel insulted. He may lose the track of his speech.

Healthy Reflections: The speaker wishes that he is listened properly and his speech is appreciated by the audience. He expects positive feedback by the audience. If the eyes and faces of the students reflect the eagerness to learn, the teacher is encouraged. During the last period of the day, if the students frequently see the watches or in the after lunch session, if some students are dozing, the teacher is frustrated. At the end of the period, if the beaming faces of the students give evidence of having gained something, the teacher is encouraged to put more efforts in teaching. In public speech or programme laughing and periodic clapping give job satisfaction to the speaker or performer. In a musical programme the swinging heads and typical hand movement of the audience proves that the artist has touched their hearts. Nodding heads of students in the classroom indicate logical convincing presentation. This type of response and gestures indicate impedance matching and fine tuning. It leads to resonant condition, resulting in maximum output on the speaker side and maximum gain on the audience side.

Expression of Internal Feelings: In the pretext of etiquette, usually we are conservative in expressing our true response to the speech or performance. Some people can freely open out themselves in responding. The verbal and non verbal expressions and gestures of the listeners stimulate the speaker. The speaker feels more intimacy with the listeners or audience. He also opens out his self. He is encouraged to go into more details. He feels like playing on the home pitch. This type of reflection and response requires some caution. It should not be artificial or atleast should not look artificial, otherwise it may give a wrong message. The words of encouragement should not become flattery. More emphasis should be given to facial expressions, gestures and body language. Words may be useful but, may disturb others and the speaker too.

Request for Detailing: In general, we advocate for interactive sessions of communication. It expects some background from the audience. Without any previous background, in the first session itself, if the speaker starts asking questions, the audience is not comfortable. On the other hand, if the teacher or the speaker overviews the subject, high lights the topic and then he deals with the topics one by one, the listeners can grasp, it creates more interest, they are tempted to ask periodic questions and the speaker can maintain the track and is stimulated to proceed in proper direction. It helps in extracting more details. At the end of the presentation the speaker has the satisfaction of the delivering goods as per expectations and the listeners have the satisfaction of having gained
something fruitful, desired by them. In these interactions the listener may address the speaker by his first name, giving stamp of intimacy. If the speaker is a very senior person, he may be addressed as sir or madam to recognize his or her authority; and religious expert may be addressed as Guruji. During the interaction, the amplitude and tone of the voice are very important. The most important thing is that the questions and statements of query should be as short as possible, should be relevant and modest. Frequent questions from the same listener are not desirable, because the audience has come to gain something from the speaker they have not come to hear a particular listener. Just do not ask questions or queries just to mark your attendance or prove your importance or superiority.

**Nonverbal gesture:** In telephonic talk when we receive some communication from the other side initially we say hello and frequently we say “yes” or “no” and indicate that we are listening the call. In general lectures also, response of the audience is necessary, to check whether the link between the speaker and the listeners is maintained continuously and consistently or not. Different listeners have different styles of acknowledgement of delivery or speech. Sometimes proper response is conveyed by eyes of the listeners, faces of the audience, postures indicating eagerness and impatience to listen and learn, nodding heads, frequently confirming by saying “yes” or generating similar audio sounds, saying “wah wah” (very good, very good) in public show, swinging heads and hands in a musical programme. In most of the cases compared to verbal expressions, nonverbal expressions are more communicative and more convincing.

### III.3 Conditions for effective listening:

The first requirement of listening is concentration. The ears, eyes, mind, nervous system and the heart should be fully involved in the listening process. Listening is meant to gain the maximum from the speech. It necessitates concentration on the speech and not on the look, dress, posture, background and social or financial or political position of the speaker. To receive the speech or communication properly, any beliefs or other good or bad stories about the speaker should be ignored. During the communication, there may be physical or technological disturbance or noise and there may be a rival group with vested interest to create the disturbance and diversion. A good listener should be immune to such factors and forces. During listening, any expert opinion or hypothesis, our own beliefs and opinion should not come in the way. First the listener should record the message on the blank CD of his mind. For proper tuning between the speaker and listener, positive feedback in the form of words and expressions are welcome. For real doubts, questions and queries are also, desirable. Prompting by the listeners is also useful and encouraging to the speaker.

During listening, negative factors should be avoided. The tools and techniques are useful for the speaker to impress the audience but, the listener should not assess
the speaker by the tools and techniques used but, by the content of the speech. It is possible that all the words may not be understood but, it is possible to get the message. Some speakers or presenters are good showmen. The listeners should not be guided by it. During listening, concentration should be on listening only. If you start analyzing the speech or try to note down the speech, many points may be missed. During the speech, some people not having proper background or understanding are not able to understand and appreciate the speech. Some of them may start yawning or dozing or unnecessary interruption or create annoying gestures or noise. In a classroom teaching also, some students are not able to understand, some are not interested, some are over confident about their knowledge. They create disturbance or irritating gestures, which is not a good sign. You may not be interested in the speech, if you are not interested, you can leave without disturbing others but, you have no right to prevent the others from listening. In some halls, the door is near the speaker and many late comers disturb the speaker and audience. After some time, front door entry should be stopped and late comers should not be allowed from the front gate.

III.4 Types of Listening:
There are various types of listening like appreciative listening, empathetic listening, comprehensive listening and critical listening.

III.4.1 Comprehensive Listening:
It is mainly involved in a teaching learning process. When a school or a college teacher or a tutor in a tuition class is teaching, the student is the listener. He listens not just for the sake of listening. For a particular subject, he has to earn some credits, by clearing the subject. Teacher is a facilitator in the learning process. If the student listens effectively, he can understand the topic and the subjects. He requires less effort to prepare the subject during reading. He can clear the subject easily. This type of listening aims at taking the concept and theory to the memory so, that it can be recollected and reproduced for future use, as and when required. In case of distance learning, telecast lectures or for study material in the form of audio and video cassettes also, comprehensive listening is necessary. Similarly, when some specific instructions for a specific work are given, some prescription is given, specifications of equipment are specified, recipe of a food item is given, this type of listening is necessary.

III.4.2 Critical Listening:
When we are interviewing somebody, some questions are asked and the candidate is replying, in oral examination the student is replying to the questions, M.Tech or Ph.D. student is presenting and defending his project, in all these cases after listening, assessment is to be carried out, for this purpose, critical listening is necessary. If some points are not properly heard and are missed, there may be injustice to the candidate. In purchase committee, for some costly item when
various parties are called to give presentation about their quoted item, critical listening helps in proper decision making. While assessing research proposals, critical listening gives comparative idea about viable and technically sound proposals.

When the consultants present project proposals for any industrial project, a lot of details are involved. Critical listening and analysis is necessary, before coming to any conclusion.

III.4.3 Listening as a Hobby and for Entertainment:

Some people are interested in classical music. It may be instrumental or vocal. There are many musical instruments like Guitar, Violin, Drum, Sitar and Tabla. In musical concerts, many artists play on these instruments. For those, who are not familiar with these things, it may be difficult to digest but, those who are familiar with classical music or classical dance associated with music enjoy it. They really zoom with it. For that purpose, they listen to it, not only with ears and mind but, with heart. Some people are interested in lighter music or songs. They also, hear it and enjoy it but, that much concentration is not necessary. It is just for time passing and enjoyment. In some songs, apart from music, words are also, important. If we listen to them properly, we enjoy more. Similarly in drama, mimicry and laughter shows, if we listen carefully, we can catch the words and the meaning and we enjoy more.

III.4.4 Empathetic Listening:

Empathetic listening is necessary to express our sympathy to the person. If somebody loses his father or mother, fails in examination, losses a job, suffers from some disease, suffers heavy loss in business or share market, he may be highly disappointed. His heart is broken. At times, he is not able to express his feeling of disappointment in public. He requires some nearones and dear ones who can share the moments of grief with him. When he meets such persons he tells about the incidence and weeps. He requires somebody’s shoulder, where he can put his head and weep. The listener can not change the situation but, once you listen to him, he gets a lot of relief. For a child, a mother’s lap is the only place, where it can put its head and share the grievances. The child is sure that the mother will always find a time to listen it and relieve its pain by her soothing hand and words of sympathy. Emphatic listening also, helps in developing mutual trust and respect, releasing emotions and tension, helps in collaborative problem solving. In mediation it is very useful. When there is a dispute between two parties, the third party is appointed as the mediator. Even if the mediator is not able to solve the dispute, the parties have the satisfaction of proper representation being heard. Sometimes the main cause of the dispute is the personality clash. Empathetic listening ensures sympathetic understanding. It is possible, if the listener puts himself in the place of the representer. He should be encouraged to speak, he
should be heard sincerely, he should not be interrupted or discouraged to represent. Emotions of the speaker should be respected and feelings should be reflected positively. By emphatic listening, the speaker feels that he is well received, his self esteem and confidence will boost. His importance should be acknowledged, when he is taken into confidence, he will cooperate, due to the faith expressed, he will volunteer his efforts in the team. He opens out and shares his thoughts. The basic objective is to allow release of emotions and feelings. The evaluating, criticizing or judging approach should be avoided. While expressing sympathy for a particular side, it should not prove that the mediator is biased by any one side. His neutral role is important. So, both parties should be paid equal attention and proper time should be given to each side. When the two parties are 180° apart, during interaction some of them may lose their temper, due to frustration and helplessness. The mediator has to handle both of them, without any personal bias or prejudice and with full sympathy.

In the counseling session, empathetic listening encourages the person to open out and get relief.

III.4.5 Active and Passive Listening:

Listening is also discriminated as active and passive listening. In above classification of listening, it is mentioned that the listening may be associated with some purpose. If the listening is done actively and effectively, only then the purpose is served. Whether it is for learning purpose, assessment purpose, sympathizing somebody or for enjoying classical music.

Active or Attentive Listening:

The first requirement of active listening is attention. During listening, if we are interested in minute details, attention is necessary. Attention comes by interest. In our daily routine, we come across cross talks or background communication. When we go to a hotel, we may be talking with our family members or a group. At the same time, on other tables other groups may be sitting. Most of them do not observe etiquette. They may talk loudly. Whether you wish or not, you have to hear it. This communication is by default. It is not by our choice or it is not of our interest. We may ignore it. We may not listen attentively but, it disturbs us, it is passive listening.

During reading a novel or a newspaper, some people are fond of keeping radio or TV ON. The music or song goes ON. They continue with their reading. The reading is for general interest. The background music is not disturbing. But, if somebody is reading for examination purpose, the radio or TV programme will create disturbance because, it is not the priority. If some body is interested in the TV programme or TV talk, his interest may be the incidence, dialogue or the information being conveyed. It requires active listening.
When we attend the lecture or the presentation by somebody, it is possible that we are interested in the topic and the content. The lecture should be attended sincerely and full attention should be given. The eagerness and curiosity are easily felt by the speaker by the eyes, faces, expressions, postures, gestures and nature of questions raised by the audience. Now a day’s there is a fashion of attending lectures like art of living. Some people pretend to be religious by attending religious lectures. There are crowds of hundreds of thousand people. Some are eating, some are gossiping, some are yawning, some are staring here and there. At the end, they may not gain anything. It is wastage of time for the listener and if majority of the audience is like this it is wastage of time for the speaker. Quantity or size of the crowd is not important, quality of the crowd is important.

Active listener should improve his listening skill. At first, he should develop the interest for the topic. If it is a technical talk, some background knowledge should be developed so, that the topic can be understood in proper perspective. Effort should be made for proper concentration. To test the effectiveness of listening, try to write down the points at the end, so that you can recollect, what you have retained. In listening process, the main focus is necessary on the speech of the speaker. But, the personality, get up, gestures, facial expressions, eye movement, eye contact, posture, shining face or smiling face, frankness, etc. work as the attributes of the speaker. They create mesmerizing effect, the audience is spell bound, is carried away by the speaker. Proper tuning is established between the speaker and the audience. The resonant condition results in maximum satisfaction on both the sides.

During communication, smart speakers are able to observe some members of the audience going out of attention. The speaker may not say anything but, his eyes give the message to the listener to tune again. The listener should take it positively and improve the concentration. The audience is usually selfish in accepting the ideas, matching with one's own ideology. We are reluctant to listen to opposite logic. At the time of listening, the approach should be an open minded. Analysis of the ideas or hypothesis may be carried out later on, to decide whether to accept it or not. All of us suffer from lack of tolerance for the ideas of others.

III.5 Barriers in Effective Listening:
It is said that while listening, concentration can be maintained only for twenty minutes. So, whether we wish or not, there may be discontinuity in listening, hearing may continue. Once you go out of track, if your attention is diverted for the time being, in the meantime the speaker will continue with his speech or presentation. So, the listener will miss some points. It will be difficult to comeback to the track and establish continuity. The speaker should be also, conscious about
this aspect. To avoid monotony of continuous speech, some lighter illustrations may be covered, in presentation some audio visual clippings may be arranged or few minutes may be devoted for interaction or questions may be entertained intermittently, in a planned manner.

The other important aspect is the optimum pace for the speech. It is reported that on an average, a person can speak 130 to 150 words per minute. On the other hand, it is reported that the capacity of the brain limits the capacity of listening to 600 to 700 words per minute. These are average values. There may be some variation from person to person. In a large group of audience, with different background and diverse interest, the above capacities maybe variable. If the speaker speaks at a lower pace, he unconsciously gives sometime to the audience, to divert the attention to analyse the speech on line, some of them may miss the track in the process. If the speaker speaks at a faster pace, the audience is not able to maintain synchronism. Once you lag behind in listening, the gap increases cumulatively and finally you lose the interest. Your inattentive gestures will disturb the others also. Some listeners concentrate in patches, they get some points, some points are missed. Due to lack of continuity and consistency, desired message is not fully conveyed. Such listeners, sometimes raise unnecessary questions, due to their missing links. It will distract the speaker and will create annoying situation for the others. A matured listener will not create unnecessary interruptions. He will allow the speaker to complete his presentation and at the end, if some doubts are uncleared, he will raise the query.

During listening process, there are various sources of disturbance. If the audio system is not proper, it may generate noise. When collar mikes are used by the speaker and if the speaker is fond of moving here and there on the stage and frequently moves the hands, sometimes noise is generated. If the acoustic design of the hall is not proper, echos may be generated. Some people are fond of coming late in the meeting, to prove their importance. If they enter from the front gate, they disturb the speaker and the audience. Nowadays, mobile phone is a great nuisance in public meetings. Inspite of repeated instructions, many people do not switch off their mobile phones. In many meetings, photographers and media people also, create a lot of interference in the line of sight of the audience to the speaker. Some people have the bad habit of cross talks, internal discussions or murmuring. In any meeting, there may be some beautiful and some handsome faces, unnecessarily drawing the attention of the audience. In certain meetings some people bring children, creating a lot of disturbance. There is a common habit of eating snacks or drinking cold drinks during the meeting, a programme, a movie or a drama. In an auditorium, some people speak the dialogues in advance or start singing the song, which is a nuisance for the other viewers, who are viewing for the first time. Some people speak about the end and suspense is unreleased. The viewers lose the charm of viewing further.
In an interview committee, if one expert is asking question and other members discuss something else, the candidate is not listened properly, he is at disadvantage. When some staff or faculty member approaches the head of the institution and if he is surrounded by other people, the staff is not properly listened and his point is not conveyed. In some cases, when the employee tries to represent his case, the boss continues to smoke or talk on telephone. The employee is heard but, not listened properly. His problem may not be solved. If the employees are listened properly, they feel mental relief. It creates homely atmosphere. The problem may or may not be solved but, when they are listened and convinced, it develops healthy atmosphere and leads to better productivity and prosperity of the organisation.

Questions:
1. Explain the difference between hearing and listening. Also, explain the listening process.
2. What are the requirements of a good listening?
3. What are the conditions for effective listening?
4. Explain the various types of listening.
5. Explain the difference between a comprehensive listening and a critical listening.
6. Explain empathetic listening.
7. Explain the difference between an active and a passive listening.
8. What are the barriers to effective listening?
CHAPTER IV
 Interviews

IV.1 Introduction

An interview is a process of interaction between one person and another person or persons. One party, who interviews has a specific purpose. The interview may be for a new job, promotion in a job, confirmation on a particular post, an admission, selection of a marriage partner, or any other purpose. Media people also, interview leaders, celebrities or somebody, who has some achievement or who has some message for the public. Depending on the purpose, the nature of interview may change. We may concentrate more on the job interviews. As the word “Interview” says, it is aimed at internal view or the internal and the external, means overall view of the person, to verify whether the person is suitable for the post or position or to verify the credentials, level or the achievement, he claims. It is not just hearing him or checking his written and oral communication skill but, also to assess his other attributes. Nowadays, it is said that in case of job interview, the companies give only fifty percent weightage to the academic achievement and fifty percent to the other life skills. Technical ability can be easily imparted by a short training or it comes by experience but, the inherent characteristics can not be changed easily. Apart from technical knowledge, oral and written communication skill, breadth of knowledge, adaptability, honesty, integrity, loyalty, leadership, managerial skill and ability to work in a group are very important requirements. The interviews for jobs are usually conducted by a panel of experts. To assess the different skills there may be different experts on the panel. Technical experts check the technical background and adaptability. Whatever is studied in the college may not be useful for the life time, it is only necessary as a background to start with.

Nowadays, technology is changing so fast that in a short time the knowledge may become obsolete and a person may become outdated, he should be able to keep pace with changing technology. Even in technical skill, interdisciplinary approach and knowledge are necessary. You can not work in the water tight compartments, like domains of electrical, mechanical, chemical, computer, information technology, electronics, communication, instrumentation, control or so. The technical persons have to communicate at different levels at difference times. He should know how to communicate with labourers, colleagues, seniors and managing director. Again, the communication may be oral or written; may be personal, to a group, on telephone, fax or email. There are some persons in the selection committee, who can interpret the body language, gestures, facial expressions, eye contact and eye movement. The knowledge, communication, confidence, integrity, honesty, stability of mind, and many other attributes are checked directly or indirectly. Social, economical, and psychological background are checked. Intelligent Quotient (IQ), Emotional Quotient (EQ) and nowadays, spiritual quotient (SQ) are
also, checked. Interview is a procedure by which the information and data about his ability or inability is derived in a qualitative and quantitative form. During our life span, at various times and at various stages, we face a lot many interviews but, most of them are casual. We take them in a routine manner but, in case of the job interviews, our career is at stake. We have to face them seriously, with proper preparedness. Whether we wish or not, such interviews bring a lot of tension. To get rid of the tension and to face them successfully proper preparedness is necessary. Otherwise, it is possible that instead of taking you in the forward direction, the interview may take you in the reverse direction.

IV.2 Types of Interviews:
IV 2.1 Job Interviews:

In the job, the interviews may be at various stages.

Initial Selection: A new company has a specific requirement of technical and non-technical staff. In the expansion process, the company requires additional technical and non-technical staff. During the working of the company also, every year some staff may migrate for a new job, some inefficient and useless people may be removed, some may retire and some people leave for better prospects. It may be in search of higher pay or position, better or nearer place, for self-employment or any other purpose. Against all these deficiencies, new recruitment is necessary. It is the initial recruitment.

Task Specific Selection: Usually initial recruitment is general. Nowadays, most of the information technology (IT) companies recruit students from various branches of engineering and even non-engineers are recruited. They undergo training for six months or one year, after initial recruitment. Big companies undertake multidisciplinary projects. During the training phase, they assess attitude, aptitude, and approach of the candidates. After training, there is a formal interview to assess their skills and allocate them according to the various tasks. It is a task specific selection. Engineers of different branches have different tasks. Marketing, manufacture, maintenance, management, design, and R&D require different skills.

Evaluation Interview: In certain companies, various teams are assigned different projects. The whole project assignment is divided into different modules and assigned to different groups. The whole project may be a time-bound assignment. The completion of the project is dependent on completion of various modules. Each group leader for a module has to periodically interview his team members and assess the progress, so that he can prepare the further action plan. In this process, by way of interview and interaction, quality of work with reference to the given specification and quantity of work completed in terms of finished jobs is found. The interview process also, highlights strong and weak links in the system. If some people are incompetent, they can be removed or can be given more training.
In certain offices and industries, the evaluation is necessary for confirmation of probationers or trainees. It is also, necessary for promotion to the higher post or next higher grade.

**Persuasive Interviews:** The company may form some new policy. It may want to diversify the activity and may go for a new product. It may merge or collaborate with some other company. In this condition, the employees should be briefed about the challenges, opportunities, advantages and disadvantages of the change. Interactions and interviews are arranged for the briefing purpose and to seek some new directions or options if possible. It helps in developing mutual confidence and results in whole hearted support from the employees.

**Counselling Interviews:** A good organisation requires healthy family relation among the employees. Apart from technical work, employees may have family problem, social or economical problems. Some times, the employee may be frustrated. It affects his work efficiency. A counselor has to play a good role here. Due to self esteems, the employee may not be ready to discuss his problem with others. The counsellor has to set a rapport with him. The employee should feel that somebody is really concerned about him. Without formal interview, he should be interacted in a conducive environment. He will open out. He will frankly discuss his social, economical and family problems without hesitation. If they are solved, he will be happy. He will put his best efforts at the job, his efficiency will be improved and due to higher productivity the company will be benefitted.

**Conflict Resolution:** In a large organization, there are different sections. Each one tries to prove his own efficiency. Competitions are desirable but, sometimes to prove one's self better, he tries to prove the other inefficient. Individually both may be excellent. But, their efforts are not co-lateral. Their egos clash. Due to diverging interest, the effective output is reduced. Under this condition, each group is to be first interviewed individually. The root cause of the problem should be identified. They should be counselled properly and amicable solution should be found that will not hurt their egos. In engineering colleges, sometimes different departments clash with each other, creating problem for the director. In a chemical industry, process and instrumentation departments clash with each other. In some industries, production and purchase or marketing departments clash with each other.

**Disciplinary action interviews:** Each organisation has some work manual. At the time of appointment, the employees are briefed about their duties and rights. Sometimes, the rules are conveyed in writing. Some people, by habit, are not willing to work. The controlling officer has to take work from such people. It is easy to work by oneself but, it is very difficult to get work from others. In government and semi-government organizations, there is no fear of losing the job. In private organizations sometimes, the labour unions may instigate the workers to abstain from work, under certain condition or work as per rule. This leads to indiscipline. In general routine, sometimes the indiscipline cases are reported, due to personality clash or for personal prejudice. The controlling officer has to resolve
the matter. By interviewing concerned party, he has to establish the fact. He has to find the validity or invalidity of the complaint. To establish healthy working condition, he has to convince the workers about rules, regulations, implications and their stake in the company. He should try to find out the solution. If somebody is at fault and is not accepting, disciplinary action may be taken against him, to establish good tradition. Persons creating nuisance should be identified, isolated and punished.

In a university, when there are cases of examination malpractice, the students and guardians are called by examination reform committee. Their first argument is that they are not aware about the rules, inspite of foolproof arrangement of informing them. The parents and students are called, they are interviewed. Initially they do not confess the fault. After a lot of interaction and question answer session, it is once again established, in presence of all that some irregularity has taken place and necessary disciplinary action will be taken against the student. But, it requires a lot of deliberations to convince the otherside. In a university or any other organisation, if disciplinary action is taken after a systematic interview and interaction, chances of court cases can be eliminated. In this case the role of examination reform committee is to interview both the sides and establish the validity and severity of the charge. As a third party, it analyses the situation independently, without any bias or prejudice for either side, comes to some conclusion and recommends the action to be taken.

Termination Interviews: In some companies, some employees are to be terminated from the job. There may be different reasons for the termination. Suppose a consulting firm expects some new assignment, accordingly it recruits some people. But, if new assignments are not coming up, the concerned persons are to be terminated. Sometimes there is a sudden recession in a particular industry, the company can not retain all the employees, it may be necessary to terminate some of them. Some company may go for diversification of the production or activity. The man power required may be of different nature. It may be necessary to reduce the earlier manpower. Some jobs like marketing require travelling, some employees are not comfortable with frequent travel or outside posting. In case of ladies employees also, there are some limitations for going outside or working in a shift or during odd hours. Some jobs require special skill or training and if the present employees are not interested in updating themselves, there is no option, other than relieving them. In a private organization, it is easy to relieve somebody but, in a government, a semi-government and public undertakings, due to prevailing rules and strong labour unions, it is very difficult to terminate anybody. For this purpose, an interview is arranged by the management with the employee, to explain the situation, offer different options like change of section, posting or promotion outside, training, deputation, etc. If nothing is agreeable, finally to terminate the person. In case of a termination, it is difficult for the person to qualify for any other job. He may be advised to resign voluntarily. This procedure of interview helps in avoiding conflicts, disputes and court cases.
After this process, the outgoing person may not have any grudge for the company and even after leaving, he will not work against the interest of the company.

**Exit Interview:** A person may work for the company or an organization, on one or more than one positions, in one or different sections and than leaves for joining another job for better prospects, the person may go abroad or may be retiring. In all these cases there is a system of conducting exist interview. In normal cases an outgoing person will not open out and will say that there is no problem with the company and he is leaving just for personal reasons. It is just a formal exit interview. In some cases the employers are really interested in getting some useful clue from the outgoing person. The outgoing person may be biased in some case. If he is punished or deprived of promotion, he may have prejudice for some people and his opinion may be quite different. If a person is unbiased and if he is treated well in the exit interview, he will open out. He may unreveal many things about the organization, which the boss may never know. He may talk about politics in the organisation, malpractices followed by some people, autocratic behavior of some controlling officer, prejudice and favourism in the organisation, good and bad traditions of the organisation, unwanted activities, indiscipline, success and failure of controlling officer, leadership of some persons, and so on. If a person retires from some senior position, after a long service, he may give some good suggestions for the betterment of the organisation.

**IV.2.2 Media Interview:** The press and TV channel persons also, conduct interviews of political leaders, celebrities or some achievers. In some cases the interviews are live telecast or the statements are published in printed form. In audio and video recorded interviews, the person should be careful in his verbal and nonverbal communication. It directly reflects the maturity, intelligence level and integrity of the person. It affects his reputation and some times the reputation of the party or organisation is at stake. In the print media, due to lack of proof, the speaker has the chance of agreeing or disagreeing with the version of his speech published. In audio/video recording it is not possible. Media people take interviews of many accused persons and some people opine in support and against him. Such interviews bias the public opinion and some times, it becomes very difficult for the judges to find the truth.

**IV.2.3 Election Interviews:** During election time, the media people interview candidates of various parties. The candidates talk about party plans and personal views and vision. It helps the voters to know about the candidates, if they are presented properly. Media people have the option and right of editing. They have their own bias and personal likes and dislikes. As a tool, it provides a good opportunity to the candidate but, sometimes the media can project the person as they like. The candidates are fond of giving many promises, which they can not fulfill.
IV.2.4 Matrimonial Interview: In this case, the interview was one way in earlier days. The boys or parents interviewed the girls, to select the life partner or a bride. Nowadays, boys and girls both have their likes, dislikes and personal choice. During the interview, they try to collect the details of each other. They inquire about the social, economical, educational, intellectual level, family, job, hobby, nature, mutual interest, friends and many other things. The information conveyed during the interview is useful for the decision making. The verbal and non verbal communication, body language, gestures, style, confidence, etc. disclose many hidden features, also.

IV.2.5 Tele Interview: Nowadays, telephones, internets, emails, web camera, etc. have brought the facility of interviewing from a far distance, whether it is for a job, marriage or business. When the probable candidates are scattered over a large distance, the initial interviews may be through telephones, web camera and internet chatting. If some initial interest is found, further interview may be arranged.

IV.2.6 Business Interviews: When somebody has to take a loan, for a house or business, from the bank, the bank manager interviews the client about his intention, job security, paying capacity and soundness of business proposal. In educational or research institutes, when proposals are sent for a new college, a new course, or a research project, after initial scrutiny of the documents, interviews are arranged to decide the viability of the project and benefits to the stake holders. When two organisations want to join hands for some common interest, interview and interaction may be useful.

IV.2.7 Admission Interview: In private educational institutes, the admission interviews start from the K.G. level. Instead of children, the parents are interviewed about their socio economical, educational and job background. In many cases the interviews are aimed at checking the donation paying capacity of the parents. At higher secondary and graduate levels, if the admission process is streamlined, the interviews are limited to checking eligibility criterion, validity of documents and written test in the form of an entrance examination. At M.Tech and MBA level interviews, first screening is on the basis of merit of entrance examination. It is followed by personal interview and group discussion.

IV.2.8 Interview for Passport/Visa: In these interviews, special types of documents are required. Visa may depend on the nature of visit as visitor, immigrant, H1 visa etc. They have specified list of documents and for visa personal interview may be more important in most of the cases. They may consider the educational, social, economical background of the candidate, financial condition and intentions. Apart from documents, by communication and body language the candidate has to convince the committee members about his intention of visit.
IV.2.9 Ph.D. Interview: When a candidate appears as a candidate to register for Ph.D., he has to give a presentation about research proposal. The experts try to verify the academic strength, capability, approach of the candidate for research and necessary background in the subject area to start the research.

IV.3 Preparation for Interview:

IV 3.0 In general, the interviewer has no limit. For him sky is the limit. The candidate has limited number and types of arrows at his disposal. He has to use all of them effectively. Actually, he has to use the opportunity to use all the arrows at his disposal. You may have an excellent mark or grade sheet from an organisation of repute, you may be a genius, you may have a lot of extra and cocurricular activities to your credit, you may have many medals around your neck, you may have a big bunch of certificates, highlighting your achievements, you may be very beautiful or handsome but, all these are preliminary or primitive requirements in most of the cases. It is only a key or password to the interview room. Entry to the interview room does not ensure your selection. Success of interview depends not on what you are, what you have and what you know or you think about yourself. At the end of interview, the interviewer should be convinced, about what you are, what you know and what you can do. In some interviews, there are different stages, like a written test, a group discussion and a personal interview. In a written test usually, there is an objective test. Objective test may be on general knowledge and/ or technical knowledge. In a personal interview, there may be a selection panel of four to five or more people. The interview may range from five minutes to half an hour or more. In most of the cases, each expert interacts with you directly or indirectly, only for a few minutes. It is a very small time to know about your academic career or job profile and other achievements and experience. Each one of them gets only a snap shot of your abilities, just like your image captured during the flash of a camera. So, it is not what you are but, what they feel about you, at the end of the interview. Not only your answers or communication but, attitude during the interview decides the altitude of your job profile. By your positive attitude, not only you should be able to present what you have done but, you should be able to project what you can do, that too, not for you but, for them.

The preparation for the interviews involves number of stages.

IV.3.1 Know the organisation: When you appear for the interview at a particular organization, you should know about the organization, where you are seeking the job. You should know, whether the company is a local or a regional company, a national company or a multinational company. What is the general organisational or governing structure of the company? More important is to know about the activity of the company. Whether it is a hardware company, a software company,
managing company, service provider, consultancy firm, contracting company, marketing or advertising company? In case of a manufacturing company again, the product may be electrical, mechanical, chemical, fertilizer, pharmaceutical, hardware, software or electronic goods. If you are familiar with the activity of the company, it indicates your sincerity and interest in the company.

Know the job: The nature of a job may be different in different types of companies and depending on their activities. The job may be on manufacturing side, maintenance side, management side, marketing side, design side, research and development side, testing side, fabrication side, software development side, consultation side or erection and installation side or even teaching side. The preparation for the interview may be different for the different types of jobs. If you are appearing for an electronic manufacturing industry, you should be strong in electronic assembling, fabrication and testing. If you are appearing for a marketing job, communication and convincing power is necessary. If you are appearing for an R&D job, analytical skill and fundamental approach may be useful. If you are appearing for a teaching job, teaching capability and interest in teaching learning process is desirable. In a chemical, fertilizer or petrochemical plant, already running, the maintenance job expects familiarity with the process, various instruments, equipments and idea about preventive and fault maintenance. Job in a manufacturing industry requires familiarity with manufacturing or production techniques and test facility and procedure. Job as a designer requires familiarity with the standards and design tools and techniques. Software engineer should be strong in logical skill, problem formulation, problem solving capability and testing of software.

IV3.3 Theoretical Knowledge: During graduation and post graduation, different types of questions are asked in examination. In job interviews technical knowledge is usually checked by objective test. In one hour time, about sixty objective questions are to be answered. Objective questions are short questions whose answers are given as (A), (B), (C) or (D). The most appropriate answer is to be marked as (A) or (B) or (C) or (D). Under different branches of engineering, there are different subject groups. Various publishers have published number of books for the objective questions for branches like electrical, mechanical, civil, electronics, communication, instrumentation, control, computer, information technology, chemical, etc. covering thousands of questions corresponding to different subject groups of those branches of engineering. These short objective questions are related to the fundamental aspects, some standard values of some parameters or some simple calculations based on some engineering formulae. There can be hundreds of thousands of such questions, in each branch of engineering. There is no limit to it. This type of book gives some idea about the nature of questions. While teaching the engineering subject in the classroom, we try to stress on such fundamental questions but, at that stage the students being examination and mark
or grade oriented, are not able to appreciate the effort of the teacher. When the campus interviews start, during the final year, they realize the need of fundamentals. The companies coming for interviews also, highlight this deficiency. During summer break, we arranged special summer learning sessions to clear the fundamentals. We can not give concentrated doze of fundamentals or pills of fundamentals like this. These sessions have proved boring and nonreceptive from student side.

The objective test helps in screening large number of students. A smaller number of candidates are identified, by fixing some cut of limit so, that some reasonable number of candidates can be interviewed personally. In a personal technical interview also, short questions are asked to check the background of the candidates. On the expert side, there is no limit to the scope of questions. Usually, they may be related to the industry and job function. If somebody is appearing for the position in a state electricity board, he can expect questions on electrical power system side. It may be generation, transmission, distribution, sources of generation and power system protection. If somebody is appearing for a post of mechanical engineer in chemical, fertilizer or petrochemical industry, he may be asked about the mechanical equipment used in that industry and its maintenance. Instrumentation and control engineer may be asked about selection, application, working, testing and calibration of various instruments, scada system and control based on programmable logic controllers (PLC) and Distributed control system (DCS). The questions may depend on the expertise and experience of the interviewer. It is difficult to predict the questions in this case. If you are appearing for the post of a lecturer in an engineering college, you should know the courses offered, subjects covered and the content. To favour the candidate, sometimes choice of subject or topic is given to the candidate. If you have prepared some subject or topic or if you are strong in some subject, you can use the opportunity in your favour. But, whether it is an oral examination or an interview, some candidates are totally unprepared. They can not select a subject or a topic. At times, after opting for a subject or a topic, they are not comfortable in it. If somebody is already in a job and we start asking about topics related to his present job there also, the candidate is not comfortable. You should be able to speak about your experience. If you have done some project at UG, PG or Ph.D level and if you are given opportunity to talk about it, you should be able to talk confidently about it but, there also, most of the people fail. Some candidates are not able to speak about themselves.

IV3.4 General Knowledge: The general knowledge may be tested by a written objective test or even during the personal interview. Nowadays, there is more awareness about general knowledge. In some good schools, even from primary level, students are encouraged to develop general knowledge. Many publishers have published number of books on general knowledge. Here also, in written objective test, about
sixty questions are to be answered in one hour or so. For a short question multiple answers (A), (B), (C), (D) are given and the most appropriate answer is to be selected. The general knowledge cannot be developed over night. It cannot be prepared on the eve of the interview. Nowadays, there are large many sources of information. It may be internet, websites, various search engines and related references books, journals, magazines, TV programmes, news papers, etc. The general knowledge expects your general interest and awareness about what is going around in the world and what has happened in the past. It may involve variety of subject areas like sports, politics, religion, history, geography, science, movies, world leaders, celebrities and what not. Here, your examination oriented reading and knowledge will not work. It is a continuous process throughout your career. You have to keep your eyes and ears open and make your memory nonvolatile. On the day of the interview, you should read the newspaper and see the TV news. You should be aware about the latest events in your city, state, country and the world.

IV3.5 **Mock Interview:** During your study, you find a lot of spare time. Before your campus interviews, plan some mock interview sessions. In some educational institutes, mock interviews are arranged, as a part of the training and preparation for the interview. In a student group, you can play different roles in conducting and appearing for a mock interview. Your faculty members will readily extend their co-operation for such initiative. Under the student forum activities, you can call some external experts to conduct the mock interview. It will give correct idea about the whole process of interview. It will help you in overcoming the fear or lack of confidence. The audio recording will give idea about flaw in your communication during the interview. Video recording can give idea about body language and gestures. After a mock interview, the group should frankly discuss the strength and weakness of some candidates. It will help a lot in improvement. The etiquettes, manners, style, expression, etc. can be learnt and improved, where necessary. For an actual interview for a particular organisation and post you may get a single chance, for which you can not take a chance or risk. But, mock interviews prove as a trial and error process. You can know your limitations and can improve accordingly. You also, know about the approach of the interviewer. If experts from different industries are called for the mock interview, they can also brief you, about the expectations of the industry. You can identify the gap between the institute and the industry. You can put extra efforts to improve up on yourself and your preparation can be more focused.

IV3.6 **Collect Internal Information:** When the companies come for the interview, they give the presentation about their company. But, then there is no time to plan your strategy. If you are keen about a job in the company, try to collect the details about it. Some companies come regularly for the campus interview to your institute. Some of your senior students may be already with that company. From
them or from other sources, try to collect the details about the approach of the company, their selection procedure, pay structure, total manpower, general policy, perks, working hours, working condition, strength and weaknesses of the company, their clients, profitability, scope of expansion, routine manpower requirement, etc. This information will help you in preparation for the interview and if selected, helps in decision making. Some candidates just appear for the interview and after selection go into the details.

If you have the idea about the selection procedure, various stages of interviews for a company and the constitution of the selection committee, you will be well prepared for the interview.

IV3.7 Group Discussion: National level companies and multinational companies, spend sufficient time in the interview process. They also arrange group discussion as a part of a selection process. For a group discussion, special techniques are necessary and some points are to be kept in mind. The techniques of group discussion will be covered separately. You can not prepare yourself for the group discussion by reading a book. Just like a mock interview, it requires some practice sessions. In engineering colleges, there are laboratory sessions of two hours. In most of the cases, the practical may be completed in one and half hour. In each laboratory session, you may get half an hour extra. You can utilize this time for the practice of a group discussion. Form your groups and carry out group discussions. You can also, take help of your laboratory teachers. Some professionals can also be called occasionally, who can give you tips about techniques for the group discussion skills and guide you about how to conduct the group discussion and participate in the group discussion in various capacities. After completing the group discussion, again you can carry out the group discussion about the group discussion session conducted, you can analyse the positive and negative points of various participants, you know how to conduct, how to participate, how to summarise the group discussion and during the group discussion, if there is any dispute, how to come out of it.

IV3.8 Communication: Your success or failure, at an interview, depends mostly on your successful communication. It starts with the listening and then communication from your side. Whether it is an interview or an oral examination, some candidates are very impatient. Without listening to the question properly, they start replying. Just hearing the question is not sufficient. You have to listen it carefully. It is supported by the body language or gestures of the interviewer. If you have listened properly, you can understand the question and then reply properly. If you have not understood the question, your reply may not be relevant. Some of the questions are like remarks, they may be asked to test your patience or reaction. You should not lose your temper in this process because you are on the receiving side. While replying, your answer should be brief and to the point. You should not
enter in to a lengthy discussion. During question answer session, if you try to speak more, you may trap yourself. You will invite unnecessary questions, spoiling your interview. During your communication, your voice should be consistent, clear, it should reflect politeness on your side. Good communication skill can not be learnt or developed overnight. In engineering institutes, we try to develop it directly and indirectly. In many engineering colleges, there may be a formal subject of communication skills or technical communication. But, communication skill can not be developed by reading a book. It actually comes by practice and as a habit. Compared to our generation, I wonder to observe the communication skill of my grand daughter, who is just in a primary school. To encourage the communication, in most of the engineering colleges, seminars are arranged. Seminar report helps in developing written skill and seminar presentation helps in developing verbal communication. In engineering colleges, there are various student forums under ISTE, IEEE, ISA, etc. They arrange a lot of seminars and paper presentation activities, called techfest at local, state and national level. The students should take full advantage of these activities to develop the communication skill, much helpful for the interviews. Some of the candidates are weak in technical aspect but, just by their communication skill, they score a better edge over the others. In a few minutes, it is difficult to assess the technical skills of a person. But, the communication skill reveals many inherent strengths and weaknesses of the candidates. The success of the candidate depends not on what you know or what you know about yourself but, what the others know about you, at the end of the interview. Facing the interview is an art and it is dominated by your communication.

IV3.9 Resume: Normally we submit our resume with the application. The resumes may be of two types. One is a detailed one, called CV, which covers your personal details, academic record, your hobbies, other training, project, extra and co-curricular activities, publications and achievements. The resume should be impressive. It will induce the other party to read it and convince them about your eligibility and suitability for the post. The other one is a summary of your resume, where the main aspects about yourself can be highlighted. It should be short and sweet. Keep extra copies of this short resume, at the time of interview and distribute it to the experts. They may not have the time to go through your ten page resume. If there is some query, you can give the additional details. What ever points you have mentioned in the resume, you should remember and recollect them and should be able to mention them orally. You are not supposed to search your own qualification, achievement, project or experience details from the printed copy. It is for their ready reference. If you need to read from the copy, it creates bad impression. You have to face the interviewers directly. If one of them shows interest in your project or publication or any other point and if it is your strong point, exploit the opportunity to talk about it, and impress them. The resume copy can help you by prompting but, it is not to be read.
IV3.10 **Questions:** Normally in an interview, questions are asked by the interviewer and the answers are given by the candidate. You can not ask question about the question asked by them. They are not there to teach you. But, in the interaction if some question is not clear to you, you can raise a question for the clarity of the question or to know exactly what they want from you. But, it should be done politely. Towards the end of the interview, if you feel that they are really interested in you and you are likely to be selected but, you have some queries or some questions, you should ask the question to clarify the ambiguity about the post or job function.

Some short term and long term preparations are mentioned here, which equip you for the interview. There are some other forms of the preparation, also.

IV.4 **General Tips for Interview:**

IV4.1 **Dress Code:** There is no well defined dress code for the interviewed candidate. The dress should be such that it will match with the job and make you comfortable during the interview. You may not buy a new dress for an interview but, it should be well washed and pressed. Every day, if you are not wearing a suit with tie and on the interview day, if you are wearing them, you are not comfortable. On one side, there may be tension of the interview and if you are interviewed in an non ac room in a suit, you will feel a lot of heat. If you are appearing for a teaching position and if you have to deliver a trial lecture, you will not be at ease. If the interview is for a post of executive level or manager of a big company or a principal or a director of an engineering college, wearing a suit with tie may be necessary or helpful. For a lecturer or assistant professor, some sober dress is preferable. People of our generation may be somewhat orthodox in this aspect. Plain shirt or shirt with small lining or small checks and light colour is preferable. Normal pant may be advisable but, jeans pant and a T-shirt with some fantastic designs and writings look odd for a person in a teaching profession or any other profession. Nowadays, in business schools, in the name of global culture, even some professors wear dresses worn by youngsters outside. During interview, slippers look awkward. Black shoes with polish look decent, sports shoes are not preferable. For the girls also, sober dress in which you are comfortable is preferable. If the girl is not usually wearing a saree and for an interview comes in a saree and frequently arranges the saree on the shoulder, it is not desirable.

IV4.2 **Punctuality:** For the interview, some reporting time is specified. You should report on time. Reporting before time is advisable, so that you complete the other formalities, you reach specific place of interview and you mentally settle and get relieved of stress. You can have glass of water and complete the natural call if necessary, to avoid last minute call. Check the schedule and venue for written test,
group discussion and personal interview. In waiting lounge also, sometimes you are interviewed indirectly. So, you should be careful while in waiting.

IV.3 Relaxation: Many students read day and night for the examination. They spend sleepless nights. Similarly many candidates prepare and read a lot for the interview. It should be remembered that on the interviewer side the sky is the limit. He can ask about any thing on the earth, you can not read and remember every thing. For the technical part of the interview or the general knowledge part of interview, you have to read and prepare many things. Do not worry about what you have not read or you do not know. In the interview, your knowledge is not important but, your aptitude, attitude and approach are important. With these three aces, you can be successful at any interview. Sleepless night and over night reading, may adversely affect your memory and mental stability. Under this condition, you may not be able to recollect the things, which you know. Unnecessary tension for the interview may disturb your mind. You can not listen to the questions and may give irrelevant answers. It will spoil your chances. Proper preparation and sincere efforts are necessary but, this is not the only company offering you the job, this job is not the only job for you and if you are not selected, you are not lost out of the world. Something better may be waiting for you. Confidence, courage and patience are necessary in the interview but, it should not be reflected as arrogance on your side. If you can maintain your mental stability, you are relaxed before and during the interview and if you put your best efforts sincerely, there are every chances of your selection.

IV.5 “Do”s and “Do nots’ for the interview
IV.5.1 Certain things are desirable for the interview: “DO”s

Preparedness: Various forms of short term and long term preparations are mentioned. The candidate should be well prepared for technical, nontechnical and general knowledge aspects.

Know yourself: Whatever details are covered in the application or CV or resume, the candidate should be familiar with it.

Documents: In your application, you give many details about your academic qualification, achievements, experience, extra and co-curricular activities. All the original certificates or documents should be ready with you in the file. The documents should be arranged in the chronological sequence and list of all the documents in that sequence should be available with you. If possible, keep one set of Xeroxed copies, also.

Dress code: As mentioned earlier, you should be well dressed, suitable for the job and you should be comfortable in that dress.
Mental Stability: When you enter the interview room, you should be mentally stable. You should be relaxed.

Decent behavior outside: Sometimes, before the interview, when you are waiting outside, you may be watched directly or indirectly. Your behavior in the waiting lounge should be decent. You should be well behaved.

Reporting: For the interview you should report in time or slightly before time, so that you can settle.

Transportation: In transportation and local transit to interview place, keep proper margin to avoid delay. If possible, avoid driving vehicle by yourself to avoid tension leading to accident.

Blessings: Seek the blessings of the almighty, your parents and elders. Take good wishes of your friends, near ones and dear ones. It inspires confidence in you.

Entry: As soon as you enter the interview room, your interview starts. Enter the room by walking with confidence, at proper pace, not too fast, not too slow. Enter with a smiling face and establish eye contact with the interviewers.

Courtesy: Say "good morning Sirs" or "good afternoon sirs" as the case may be. Reach the chair specified for the candidate and request the permission to sit, by saying "may I sit, sirs?" When they say "yes" sit slowly, after saying "thank you, sir". Arrange your sit again, near the table. If your documents are in a small file folder you can keep it on the table but, if there is a big bag, keep it just near your chair.

Posture: While walking and entering the room, while sitting on the chair and while replying or reacting to the questions, proper posture is desirable, while sitting in the chair, you should be in attentive position. Your face should anticipate the questions. When a particular expert asks questions, you can turn your face towards him but, at the same time maintain eye contact or attention towards others.

Information about the Company: Advance information about the company is desirable and helpful.

Body Language: During the interview you have to prove your sincerity, frankness, confidence, talent, smartness, transparency, etc. Certain things are revealed by the question answer session but, many things are exposed and exhibited by your body language. Be careful about your body language, to give positive messages.
Your communication and reactions should be polite, even if somebody is asking irritating questions. In an interview panel, only some people may be asking the questions but, others read your body language, to assess what you have claimed in the resume.

**Communication:** Effectiveness of communication will convince the interviewers about your capability and intentions. Listen the questions carefully and answer them to the point. Be brief in the answer, to avoid trapping your self.

**Keenness for job:** Your behavior during interview should reflect that you are interested in the job and have not just come for the experience of interview.

**Answering techniques:** Communication in an interview is for the selection purpose. Some questions require yes/no type answers. In some cases short answers are necessary. Some questions are asked for the sake of asking, just to check the response of the candidate to such questions or to irritate the candidate. It is better to keep mum in this case. Only when detailed information is asked about some topic, go in to the details, otherwise it may put you in difficulty.

**Queries:** Regarding the company, post, job function or pay structure, if you have some ambiguity, you can clarify with the HR department after the interview.

**Art of diverting the interview to your interest:** During the interview some times, you may get the chance to talk about your strength. Exploit the opportunity fully. You can talk about your qualities, achievements, experience, project, training, publications, research and many other things.

**End of Interview:** At the end of the interview, they should feel that you are happy with the interview process. With smiling face, you can say thank you and depart. If there are one or two persons in the panel, shaking the hands may be possible. But, if there is a large group of very senior people, shake hand may not be possible.

IV.5.2 In an interview certain things, called “Do not”s should be avoided.

**Late Reporting:** It indicates lack of planning, lack of sincerity and puts you in tension.

- Avoid self driving a vehicle to the place of interview to avoid casualty under tension.
- Avoid last minute preparation and sleepless night.
- Unarranged or missing documents may put you in difficulty.
Avoid reading your resume before the committee. You should know about your qualification, experience, achievements and convey it orally.

Avoid uncomfortable dress. Also, avoid the dress which is not matching with the profession.

Avoid unnecessary make up, perfume, etc. You have to impress the interviewers, not to seduce them.

Avoid checking the tie, arranging the saree, rearranging hair, playing with hair and moustache.

Avoid tension on your face and over seriousness.

Do not sit without seeking permission.

Sometimes, the candidate has to sit on a revolving chair. Do not revolve it unnecessarily.

Do not stretch the feet too much, do not shake the feet and do not put one foot on the other.

Avoid unnecessary movement of hand or fingers.

Avoid bluffing. If you do not know any thing, confess it or keep mum.

Avoid arrogance during interview process, even if provoked, do not lose your temper.

Avoid mistakes in your communication. Do not start replying impatiently, without proper listening and then frequently saying sorry.

If you do not follow the question, say “pardon me, sir.” Do not say “what do you mean?” otherwise he will say “I mean you get out”.

During interaction process of the interview, avoid controversial statements and controversy with the panel members. In our system, boss is always considered right. Do not argue with him.

Some people unnecessarily use a, an, the, with the proper nouns. Avoid it. It is poor communication.

In communication, some people use some phrases repeatedly e.g. “I think”, “I mean”, “You know”, “It may be”, “Well”, “As such” which is not desirable.

Avoid wrong pronunciation.

Do not interrupt the interviewer in between. Let him complete first.

Do not overpraise the new employer.

Do not abuse the present employer.

You can highlight your merit and achievements but, do not boast about yourself.

Do not criticize others.

You may be a competent person but, do not over estimate yourself and underestimate others.

Do not show that you are interested only in money and not ready to take up new challenges and responsibilities.

Do not talk about rivals of the company or rivals of interviewers.

Use English for communication. Do not mix other languages.
• If you have the changed jobs at very small intervals, do not mention those which were of very small duration or the experience is not relevant to the present job. Frequently changing a job is a negative point. If you blame the company for it, the other side will not believe it.

IV.6 Importance of Nonverbal Aspects: In the interview process, the panel of experts tries to derive a lot of information about you. You have covered many things in your resume or CV. You have to really prove that it is your resume. Sometimes a resume is prepared by a professional and it speaks in superlative terms about the candidate which may not be true. So, validation and verification of the resume is also, done during the interview process. When you face the interview, nonverbal aspects convey a lot of information about you. Sometimes it may be unintentional natural phenomenon but, if you are conscious about it, you can manage the aspects and use them in your favour.

Your entry, your greeting style, your sitting posture, facial expressions during communication, your eyes, hands, feet and body movement, everything is noticed by the interviewers. Do not change the chair or body position frequently and unnecessarily. Be conscious and carefully control your posture during the interview. Good posture may create positive effect and bad posture may create negative effect. Sit properly and use the hands during explanation if necessary. Playing with tie or other part of the clothes, playing with hair, dramatic gestures, resting your hands on other chair, etc. create bad impression about yourself. While leaving, collect your files, papers and other accessories, thank the panel members, rearrange your chair, leave the place with a smiling face at normal pace, without making noise with your shoes. During the interview, your face should be free of tension.

IV.7 Types of Questions Asked in Interview: It is not possible to cover all the questions asked in different interviews. The type of questions may depend on the organisation, post and purpose for which the interview is conducted. The questions are meant to derive the information about the candidate and the process of interaction reflects the communication skill, knowledge, experience, expertise, attitude, ambitions, vision, career goals and many other things. Apart from your answers, the attitude and approach are more important.

Personal Details: Some questions are asked about the personal details of the candidate. By these questions, name of the candidate, his family background, his native place, profession of his father and similar information is derived. Usually, such questions, help in checking the identity of the candidate and helps the candidate to settle in the interview room after his entry.
Qualification: Some questions are asked, to check the academic record of the candidate. He may be asked about the first degree or diploma, university and college where he studied, year of passing, marks, class or grade point attained. He is also, asked about post graduate or Ph.D. degree, if applicable and any rank or medal awarded during the study.

Experience: Further questions are asked, to know the experience of the candidate at various organisations for different durations, on various positions and the nature of work involved in each case. Nowadays, some candidates change the job frequently. One way, it indicates your adaptability for different types of jobs, at different places and different positions. Frequent change of a job is considered as a negative point. You may blame the company for the change of job but, the interviewers may doubt your capability or integrity. Mention the relevant experience only. Do not hide any information.

Career growth: Some questions are targeted to know, how you have grown in the career. During the change over of organisation and position, how you have enriched yourself and what type of training you have undergone or how you have improved your qualification or skill? The career growth should have upward trend without stagnation.

Contribution: Some candidates become an asset to the company, by the value addition made by them to the company. Some organisations are known by their good managing directors, chief executive officers or employees. Some good universities and educational institutes are known, by the reputation of some good professors. If you are one of them, you have the opportunity to highlight your contribution to the organisation. Along with your growth, growth of the company and your contribution for it are important.

Strength and Weaknesses: When questions are asked about your strength and weakness, you should be able to exploit the opportunity in your favour. Somebody may be academically strong, somebody may be good in administration, somebody may be good in research, some people may be strong in project planning and development, some body may be strong in design, some are strong at marketing and some may be more useful for production and some for maintenance. These are job related skills. In addition, there are many personal qualities for being successful in the career and useful to the organisation. In highlighting your strengths, you should not be boastful. You can mention some of your weaknesses but, smartly so that indirectly they may be plus points to your personality. The weaknesses should not out weigh your strengths.

Analytical skill: In a written test, there is more scope for checking the analytical skill but, some short questions can be asked in the personal interview, to check
your analytical skill. They are necessary for engineering jobs on design and R&D side.

**Logical Skill:** Software engineers have to use their logical skills in the software development. It can be easily tested in an objective test but, in personal interview also, some short questions related to the logical skill can be asked.

**Crisis and Situational Management:** A particular condition may be described and the candidate may be asked how to come out of the situation or how to manage the condition. The candidate can narrate some incidence of crisis management by him.

**Imaginative Questions:** You are asked to assume yourself in some condition: Prime Minister of a country, General of an Army, an actor, M.D. of the company, etc. There is no specific answer to the question. It checks, capacity of imagination and instantaneously expressing yourself. You can answer properly, if your mind is able to imagine at a faster rate. It may also reflect your vision and mission.

**Questions without Answers:** Some questions are asked for the sake of asking. Even if you answer, you may be put in difficulty or you may displease your boss. Smartly you have to pass such questions. Such questions test your tolerance and patience.

**Career ambition:** If you are asked, what is the goal of your career? Many of you may not be able to reply. Very few people decide their career goal or goal of life and can say about it. A bold candidate may say that “I want to reach your position”. The boss may be pleased. The candidate may be selected. Dhirubhai Ambani had a dream, a goal and he achieved it full efforts.

**Role Playing:** In an organization, there may be different types of jobs at different positions. You may be asked that if you are in such a position, under such and such situation, how you would behave? It also requires imagination, problem solving ability and quick reaction under some situation.

**General Knowledge Questions:** It is possible that the panel member in the committee, picks up some recent political, social, scientific or sports event. You should be aware about what is going around in the world.

**Technical Questions:** Related to your background, experience and job function, some technical questions can be asked by the technical experts.

**Project, Consultancy, R&D and Publications:** When some body is appearing for a senior position in an academic institute or an R&D organisation, he should be ready
to face questions about projects and consultancy work done, Research and Development work done, government, semigovernment and private grant received and the technical papers published by him, and the technical journals in the area of work.

Reasons to join or leave a company: In most of the interviews, the candidate has to justify, why he is leaving the present company. The reason may be bad working condition, shift job, odd placement, like or dislike for a government or a private job, poor payment, a bad boss, some dispute with the company, dismissal, economic crisis with the company, travelling job, change of marital status, poor job satisfaction, etc. The reason should be conveyed in convincing way. Avoid blaming the old company and abusing the old boss. Reason to join should be convincing, not just praising the new company or the new employer.

Opinion: The candidate may be asked, his opinion about some event, some policy of the company, general working of the new or the past company, his boss, teachers, educational institute, etc. Such questions check the psychology of the candidate. Honest candidate may give his frank opinion. Some candidates try to answer, just to please the interviewers but, he is likely to be caught. While giving opinion, the candidate may be right or wrong, the opinion may be liked or disliked by the expert but, he should handle the situation trickily, what ever he has to say, he may convey as a personal opinion but, should avoid unnecessary discussion or tussle.

Yourself: Some candidates have very good technical and general knowledge but, if they have to speak about themselves, they can not.

Salary: The candidate should be ready with his salary expectation. It should not be too high, not too low. If asked, to select between salary and status, the candidate should be ready to reply.

Mobility: If you have changed the job frequently, you should be able to justify it. The interviewers should be convinced that you will work for them for a longtime.

Joining: When you are appearing for an interview, you have to convince the other side that if selected, you are keen to join. You have to specify joining time/notice period.

Development: If selected, how you will work for the development of the company? What are your plans (short term/long term)? What reforms you suggest?

Teaching: In our institute or when I go as an expert on selector panel of public service commission for teaching posts, we ask the candidate to teach some
technical topic of his choice for few minutes. Some are comfortable but, some candidates are neither confident nor comfortable.

Questions:
1. What is an interview? What is its significance?
2. Enumerate the different types of interviews.
3. Explain about the initial selection interview and task specific interview.
4. Describe evaluation interview and persuasive interview.
5. Write notes about counselling interviews and conflict resolution interviews.
6. Explain the significance of disciplinary action interview.
7. Explain the difference between termination interview and exit interview.
8. Write notes about media interview, election interview and matrimonial interview.
9. Explain teleinterview and business interview.
10. Describe admission interview and interview for passport/visa.
11. How Ph.D. interview is different than other interviews?
12. Enumerate the points to be considered, while preparing for interview.
13. Why knowing the organisation and job is necessary before an interview?
14. What type of theoretical preparation is necessary for an interview?
15. How general knowledge can be developed?
16. How mock interview can be arranged and how it is useful?
17. How internal information of the organisation is useful in an interview?
18. What is the importance of group discussion in an interview?
19. Explain the importance of communication in an interview.
20. How the resume should be utilized during the interview?
21. How the questions should be attended by the candidate?
22. Explain the general tips useful for the interview.
23. Discuss the Dos and Do nots for the interviews.
24. Explain the importance of nonverbal aspects in an interview.
25. What are the different types of questions asked in interviews?
CHAPTER V
GROUP DISCUSSION:

V.I Introduction
As students and later on as professionals, you will come across many forms of group discussion. In personal communication, we have one to one communication. In official meetings, the communication may be between two or more members, upto hundreds of people. A seminar involves presentation and interaction among researchers or experts. A symposium involves presentation to a large audience. In a panel discussion, some experts are required to discuss some topic for the benefit of a large audience. In conferences and conventions also, there are presentations by different people, one by one in a session, followed by the question answer session. Group discussion is again, a mode of group communication. It may be carried out by more than two persons, may be five to ten. The upper number is limited to avoid a crowd and chaos. It may be arranged for exchange of information among different group leaders in an organisation. It may be among heads of the departments in an institute and heads of the institution of a university. Sometimes, it is necessary to solve some problem related to manufacture, marketing, maintenance or management in the organisation. When some new policy is being formed, to discuss plus and minus points of the policy and to convince each other, a group discussion is necessary. In an engineering college, some branches are to be added, intake is to be increased, curriculum is to be revised: to consider various options and to take some decisions group discussion is necessary.

Nowadays, during the interview process, the national and multinational companies arrange group discussion for the probable candidates. It is a part of the selection process. Apart from academic achievements, project, training, extra and co-curricular activities, reported by the candidate, the group discussion helps in identifying personal attributes of the candidate, which may be very much necessary, with reference to the job position in the company. For admission to a business school also, group discussion is an integral part of the admission process. It helps in checking communication, personality, problem solving and decision making ability and leadership quality of the candidate. We may concentrate more on the group discussion for the selection process for a job or admission. As you are planning for your job interview or MBA interview, you should devote some time for it, during the final year and pre-final year of your degree programme. Attend seminars and various symposiums, arranged at the state or a national level, for the students and professionals. Present technical papers, hear professional experts, actively participate in the question/ answer sessions, observe the professionals conducting panel discussion. During your laboratory sessions and other spare time, find some time for this purpose. This skill can not be attained overnight on
the eve of the campus interview. If necessary, under student forums, some professional can be called to guide for the group discussion.

V.2 Group Discussion for the selection process
Formation of Groups: During the selection for a job, the companies start with aptitude test. The objective test may be based on general knowledge questions, short technical questions, and the general questions, checking the logical and the analytical skill of the candidate. From this test, some candidates may be short listed for further interview. Before a personal interview, they arrange group discussion sessions for second elimination. If a large number of candidates are shortlisted they may be subdivided into subgroups, with less than ten members for the group discussion. So, first requirement of the group discussion is to form a reasonably small group. They sit around a table.

In some cases, some general topic of current interest may be given for the discussion. To check problem solving ability, sometimes the candidates may be given some situational problem and the candidates may be asked to resolve the problem at the end of the discussion. The candidates may be given some small time for the preparation. They have no time to refer any thing but, if some time is given, they can note down some points, which may help them in expressing their ideas during the discussion. They can set the points, questions and sequence, etc. in their mind. If the topic is very general, there may be more than two opinions or more than two solutions. Each member in the group may have his own opinion or solution. Each member forms a one member group for each idea. Some topics are debated e.g. democracy v/c autocracy, globalization: advantages and disadvantages, government subsidy : desirable or not desirable; taxation should be more or less, mobiles should be permitted or not in educational institutes, live telecast by a channel during war or terrorist attack should be permitted or not. In case of these topics, some members may argue in favour or in opposition. Here, the whole group may be divided in subgroup A in favour and subgroup B in opposition. They may argue in favor of the option chosen. During the group discussion, one coordinator may or may not be appointed. If a coordinator is fixed, he can observe that all the people get the opportunity to speak, there is no cross talk, the discussion proceeds in a desired fashion and there is no diversion of the issue, the time sharing by groups and individuals is reasonable, the discussion is not converted to a quarrel, there is no personality clash, the group discussion is carried out in a healthy environment and at the end, some conclusion is drawn, indicating advantages, disadvantages, scope and limitations of each system. In case of multiple solutions, the discussion will help in arriving at some conclusion about the best possible solution. If it is a brainstorming session for some official policy in an organisation, it can also, suggest the line of action.

So, if there is a co-ordinator for the group discussion, his role is critical. He has to work as an umpire or a match referee, without any favor or prejudice for any
subgroup or any person. He should be able to analyse the points dynamically, so
that he can monitor the proceedings, intervene as and when necessary, monitors
time, keeps them all on the track of discussion and draws some conclusion or
summarises at the end. It may be some common policy or line of action in the
official meetings.

The other members of the group discussion team are also, required to observe
some points and develop the necessary skills.

V.3  Guide lines for Group Discussion:
Communication:  It is observed that most of the students are very comfortable in
answering written papers but, they are not so comfortable in oral expression. In
oral examination also, some students ask whether they can write or draw and
explain. It reflects the weakness for oral expression. The first requirement for
group discussion is a good oral communication skill. In oral communication, good
vocabulary is helpful but, effective use of vocabulary is more useful rather than
richness of vocabulary. You may have thousands of arrows with you but, if you are
not skilled to use them at proper time, it has no meaning.

Confidence:  The second point is the confidence. You should speak with clear
voice with full confidence, so that your arguments are heard properly by the others
and your confidence adds authority to it. The halfhearted arguments, means that
you are not sure about what you say.

Awareness:  When you are going for an interview, which involves group discussion,
awareness about current issues is necessary. If the issue about current downfall or
rise of the stock market, global recession, nuclear deal, political stability of the
country or oil prices is put for the group discussion and if you have no idea about
any of these issues, you can not participate in the group discussion or your
arguments may not be logical.

Observation:  You learn many things about the group discussion by observing
others. It can be done in a practice session and a training phase. Observe the
way the others make comments, ask questions, agree or disagree with the other
fellows. Learn group discussion etiquettes. Also, learn how Group Discussion can
be conducted.

Practice: You can develop your group discussion skills by practice. Form your own
group and start the group discussions for learning purpose. Try to learn, how to ask
questions, how to fetch information, how to get opinion of others. After practical
session, you can analyse the session. What are the plus and minus points of various members? How one member is more effective than the other? What is the
opinion of others about you, as a team member? How to improve upon yourself? Can you take up the responsibility of a group leader or a co-ordinator?

**Participation:** After observation and practice session, you can prepare yourself for actual participation in the group discussion. Initially you may require advance information about the topic, so that you can prepare some questions and arguments, you can collect some illustrations or questions in your favour. But, real experience of the group discussion, you will get by actual participation in some group discussion. You will get idea about your strengths and weaknesses. If you are keen, you can improve up on your self.

**Listening:** In a group discussion you should not be impatient to put your points only. First you should listen to the other person. He may be talking in favour or opposition of the topic. If you listen to the other people, you can understand the logic of the other people or your opponent. You can dynamically change your argument. If you do not listen to others or if you are not able to hear others, sometimes you try to raise the point, which is already discussed and discarded. Due to your lack of concentration, you may be put in an awkward position.

**Arguments:** The arguments should be logical. They should be substantiated by illustrations or evidences. Validity of your argument is not decided by the loudness of your voice. It may be the other way. If each participant tries to raise the voice, it leads to a quarrel. The meeting breaks and there is no fruitful outcome. In a board meeting, if the other directors are powerful, the personalities may clash. There is no healthy discussion. In the educational institute, if there is no harmony among the various heads of the departments, each one may try to blame each other and may not accept responsibility and raise hands in case of failures. In such cases, the principal or director, has to play a critical role as a co-ordinator. Such arguments should not be just to override or overrule the others but, finally to understand and convince each other.

**Involvement:** In the official meetings, when some critical issue comes, some people smartly avoid the discussion. They have no courage to displease either side. But, that is cheating one self. In a group discussion for job purpose, you can not afford to keep yourself aloof. You can be assessed only if you are involved. There are no marks for
keeping mum in an interview. In your official meeting, your boss may
give you some credit or some favour, for not speaking on some
critical issue leading to controversy. In the present form of the group
discussion your skills are judged only by your involvement.

Opinion: In the group discussion, in some cases, you may be
assigned to speak in favour or opposition. In most of the cases, by
your choice you opt to speak in favour or opposition to the topic. You
decide to support or oppose some ideology or philosophy or policy or
decision. It indicates your line of thinking. During the interaction,
you can have ample and fair chance to convince the others about the
ideology supported by you. During the discussion your opinion should
be consistent.

V.4 Group Discussion Etiquettes:

To carry out the discussion in the healthy manner, the members
have to follow certain rules and regulations. To maintain mutual
dignity and decorum of the session, they have to follow certain
etiquettes.

There are certain DO and DO NOT etiquettes for the interview.

DO

- Speak not too low, not too loud, clear, use pleasant, friendly voice to the group.
- Listen to others with open-mindedness, take the point positively.
- Appreciate the opinion of others. If possible, agree and acknowledge.
- You may agree or disagree. Show your disagreement politely.
- Be precise, manage your time and turn to speak effectively.
- If you are right, others can also be right. Accept it.
- Plan in advance or dynamically, your opinion and arguments. Talk relevant things.
- Maintain dignity of other members and the coordinator or the chair person.
- Keep eye contact with others.
- Use proper body language, gestures and facial expressions.
- First acknowledge and then express disagreement politely; “I can understand –
  how ever;” “it is a good point but;” “I appreciate but”
- Use proper phrases for disagreement: it may not be always so because .... It may
  not be necessarily true because....; It is not supported by proof....; I think you
  meant that.....;

DO NOT: Certain things are not desirable in the group discussion.

- Do not shout in a group discussion.
- Do not be excited or be angry in a group discussion.
- Do not interrupt anybody, before he completes.
- Do not use indecent words or language.
- Do not waste time. Do not extend your point unnecessarily.
- Do not form prejudice for other person or his opinion.
- Do not fumble in your arguments.
- Before speaking, seek permission or show general courtesy.
- After your last remarks, say thank you.
- Be logical, use proper illustrations or data if necessary.
- Do not oppose for the sake of opposing.
- Do not put the co-ordinator or a group leader in awkward position.
- Do not walk out from the group discussion.
- Do not hit your fist on the table.
- Do not ignore others’ arguments.
- When the others are speaking, do not enter into nonverbal communication with your colleagues or friends e.g. typical eye movement or sarcastic smile.
- Do not cross talk.
- Do not break the discussion.
- Avoid allegations in group discussion.

V.5 **Role playing in a Group Discussion:** In general discussion, there are some fixed roles. One person may act as a co-ordinator. He has to work as an umpire or a referee. Like the speaker of a parliament, he has to work independent of any group, without any favour or prejudice for any group or idea or hypothesis. His responsibility is to conduct the group discussion successfully. He will manage the time, involve all members in discussion, avoid clashes and at the end summarise or conclude. In case of official discussion, decide line of action. The participants are divided in to two groups for certain topics. In this case the participants have to opt to argue in favour or opposition. So, there are three roles available for the participants.

In some group discussions, a variety of roles are to be played by the participants. Consider a topic like use of mobiles in an educational institute. This topic can be discussed from different angles of the students, the teachers/lecturers, the heads of the departments, a principal/director, the management, the university authority, guardians and the society. To cover various stake holders, the participants can be assigned different roles and they can argue from their angles. Similarly, if a topic of capitation fee in the engineering or medical colleges is to be discussed, the stake holders are students, faculty, the institute management, government, guardians, employers, and the society. The participants can be assigned different roles. Like this, there are number of issues, which require discussion from various angles. The participants can present their views according to
the role assigned. It becomes a real brain storming session. The problems related to the issue can be discussed at length. Advantages and disadvantages, strength and weakness, scope and limitation of monitoring, requirement and misuse, all these aspects can be covered by the participants, if they are well prepared for this type of issues.

The effectiveness of discussion depends on number of candidates in the group, their educational background, their preparedness and the infrastructure. An informal group discussion or a training phase can be arranged anywhere, even in open or on a lawn. But, when it is a part of selection process, proper arrangement is necessary. The chairs may be arranged about a round table or a table with larger length. At the end of the table, the coordinator may sit on left hand side and on right hand side the two groups may sit, where the discussion requires opinion in favour and opposition. In some cases, the candidates may be asked to opt for either side. Some times, the candidates may be assigned the specific role. During discussion, the candidates should be able to see each other and hear each other. For this purpose, the number of participants is limited and they are arranged in a circular, a rectangular, a square or a U form. Acoustic design of the room may make them audible but, arrangement of collar mikes or table mikes is desirable. The lighting in the room should be sufficient, so that all participants can see each other, their facial expressions, body language and gestures. In case of Group Discussion for selection purpose, experts from the company may be sitting on the other side. They can see and hear the participants. Nowadays, it is also possible to monitor and observe the discussion from the other room, by a close circuit TV camera.

As a procedure, first the group for the discussion is identified. The topic is announced. Some time may be assigned, so that the candidates can opt for either side and prepare the points to be presented by them. The co-ordinator or referee may be fixed from the participants or company side. In a discussion, involving many stake holders, the participants may be asked to opt for a role or they may be assigned a specific role, objective of the group discussion may be briefed. The overall time for the Group Discussion and average time available to each participant may be specified. If there are specific rules for the discussion, they may be announced or it may be presumed that they know and follow the general rules. If there is specific criterion for assessment and if the organizers wish, they may announce or it may be left to the reviewers of the group discussion. There may be start and stop signals for the group discussion. If
necessary, the specified time for the group discussion can be increased or decreased depending on how the group discussion proceeds.

V.6 Qualities Assessed in Group Discussion:
Communication Skill: In a group discussion, the participant has to present his viewpoint or opinion about an issue. When a particular role is assigned or opted, he has to argue, considering himself in the particular position and situation. Effective communication requires good vocabulary to express one’s self. Whatever you think, you should be able to express it effectively. With rich vocabulary, selection of proper words is necessary. You should be able to express yourself fluently in good, clear, audible voice. Your verbal communication may be supported by your nonverbal communication, in the form of proper eye contact, facial expressions, body language and gestures, supporting your argument and not hurting anybody.

General Knowledge: When you join a group discussion, topic may be announced on the spot. You may not get anytime for reading or preparing in other mode, except noting down with pen and paper and arranging your points in proper sequence, their priorities, significance and some illustrations or data coming to your mind. For this purpose, you should have the habit of going beyond class room and specified courses of your study. You should be in touch with the current events and issues at local, national and global level. You should have the habit of reading newspapers and seeing the various TV channels and websites, bringing a flow of general knowledge.

Technical Knowledge: It is possible that for a job interview in an engineering firm, sometimes technical topics like space technology, nuclear technology, non conventional energy sources, current trends in technology, communication protocols, instrumentation and control communication network or VLSI technology may be specified. As you belong to that branch of engineering, necessary technical background in that area is expected.

Logical Approach: During the discussion, you should not be arguing just for the sake of argument. It should be convincing to the other side. You have to present your ideas in a systematic way in a proper sequence, with the necessary illustrations or data, wherever necessary.
Group Discussion Manners: Earlier, certain Dos and DO NOTs for the Group Discussion are mentioned. You have to follow certain protocols and guidelines for the Group Discussion, so that you can argue or oppose without hurting anybody. Your voice, your words, your body language and gestures should lead to healthy discussion. In the beginning or end of your communication, some phrases make it polished.

Role Playing: In the group discussion, when you are assigned a particular role and if you can justify it, it indicates your adaptability to different roles.

Group Behaviour: It is said that individually all of us are excellent but, some of us are not able to adjust in a group. We have to listen, understand and appreciate others in the group discussion. We have to respect each other and maintain mutual dignity. By counter argument, we should not be over excited. We should not lose our temper. Inspite of provocation from the other side, we should not lose temper. In some of our official meetings, it frequently happens. Some people speak for the sake of speaking. Just to mark their presence, some people are fond of throwing a stone in steady water. You should be able to maintain your mental stability under such situations.

Leadership: In a Group Discussion, if you are assigned the role of a coordinator, it can prove your leadership skill. How you organize and conduct the Group Discussion, how you control others, how you manage time and how you lead the group to some common conclusion, reflect your leadership skills. During your job as a manager, executive or a chief executive officer, in a company, whenever there is some dispute among the workers or engineers of different sections, you have to resolve the issue. In Group Discussion, you can project your leadership skill. In our engineering institute, one company came for campus interview. Group Discussion was to be carried out for some short listed candidates. One student could independently handle the Group Discussion. He spoke minimum during the group discussion but, he proved his leadership skill and he was selected. In a group discussion, a candidate should not try to dominate by a louder voice or by interrupting others. Group Discussion is quite different from a debate. Your leadership can be proved, by drawing the attention of other members, by good logical arguments, good communication, good manners presented by body language and gestures, listening others and convincing them by your arguments.
Honesty, Integrity and Frankness: In the personal interviews, at some engineering colleges or at public service commission, I have seen that there are some members, who do not ask anything, they are observers but, they continuously assess you without any direct interaction. In a group discussion your words, your tone, your arguments, your facial expressions, your body language and your gestures reflect your honesty, integrity and frankness. If your verbal and nonverbal communications do not match, you are exposed.

Justification of Topic: When you argue, the arguments should justify the side you have opted for the topic: in its favour or opposition. If you are given a specific role, you have to speak for the topic from the point of view of the role assigned to you. There should not be ambiguity in your argument. In official discussions, some people argue in both directions, to please the boss and not to displease the colleagues. Similarly in a group discussion, you have to justify the topic as you have opted for.

Consistency: While arguing, your stand should be consistent. You should not change colours during the discussion. If your arguments are supported by evidences, illustrations and good data, you may not deviate from your stand. If you enter the discussion, without proper background or preparation, you can not be consistent.

Time Management: You have to utilize your time most effectively and should not encroach up on the time of others. By avoiding duplication and irrelevant points, you can manage your time and help in overall time management.

Convergence: The group discussion should converge to some summary, or conclusion or line of action. It is the responsibility of each participant, to help in this direction. If their arguments are diverging and diverting, there may be endless discussion, without fruitful outcome.

Decency: During a group discussion, all members should maintain some decency. Avoid personal allegations and follow decent behavior, polished language, good body language and gestures.

V.7 Topic based discussion and case studies:
V.7.1 Introduction
If you are in touch with current issues, it is possible that you may get your familiar topic. But, it may not be always so. You should have the capability to enter in to a group discussion, on any topic given to you. It indicates your adaptability. When a topic or a theme for group discussion is announced, listen it properly. You should not jump in the discussion, without planning and prethinking. As soon as the topic is announced, the points in favour and opposition can be thought of. You can opt for either side. In a group discussion, only your thinking is not important but, the philosophy behind it is very important. During your turn, you should be able to justify your stand. If you are not well prepared, the otherside may take over, before you can justify. In the beginning, all the participants will try to argue. Those having logical approach, can survive during this part. You may not get infinite time. From the series of points thought by you, you should fix some priority and tackle them accordingly. With good points and their proper presentation in the beginning, you can draw attention of others, and you can dominate, otherwise you are lost. Nobody notices you. In a group discussion, the main difficulty is that more than one participant may get similar ideas. If you can take initiative and speak first, you have good chance of speaking about the points thought of by you. If you are just waiting, the others may cover your points, and you may not get proper points to speak about. In the beginning, you can plan for number of points and when others are speaking, by your dynamic thinking process, you can interpolate and extrapolate the arguments of others to get new ideas. Number of points raised is not important but, how you can justify them and how you can convince others is important. In this process, the opponents may raise some queries and doubts about your line of thinking. You should be able to anticipate some questions, related to your arguments and you should be ready with the answers, otherwise sometimes your arguments may put you in difficulty.

In many cases, the problem given for the group discussion may be a case study. The case study may be related to some live problem of the company or some hypothetical situation. It is a challenge to your problem solving capability and as a future manager or an executive of the company, you can not escape it. Before interview, you should be familiar with the activities of the company – whether it is a manufacturing company, a marketing company, a consultation firm, a software company or an R&D organisation. If you are familiar with the current trends in the business world, you may have some idea about the problems faced, challenges and issues faced by the company. You may get some clue about the case study to be given
for the group discussion. With this type of approach, you have some preparation to deal with similar case studies. Case studies give more opportunity to apply your analytical skill. Understanding of what has happened, under what condition it has happened and why it has happened, gives idea about strengths and weaknesses of the company and its competitors. After analyzing the situation, it is necessary to suggest some remedies or future course of action. Here also, different people can suggest different solutions. Each solution may have advantages, disadvantages, limitations and restraining forces. The other group may raise some points unforeseen by you. You have to counteract these points.

Each situation may have different perspectives. A particular situation or solution for an organisation may have different stakeholders like workers, supervisors, engineers, management, consumers, marketers, share holders, government and society. Under this condition, the case should be studied from all the angles. Consider all possible solutions. The decision depends on the advantages, disadvantages, scope and limitation of each solution. Detailed action plan should be ready and in case of any problem, alternative line of action or diversion should be thought of. The success or failure of any plan also, depends on many external factors, which should be anticipated in advance.

V7.2 Preparation for a Group Discussion on case studies: Any book or training or reading can not prepare you for all the case studies in the world. The main requirement is the awareness about the events, issues, policies, latest news items, activities of the company for which you are appearing and current achievements of the company or problems faced by the company. Before start of the actual group discussion, if you are given the case study topic, note down the points to be covered by you in a logical sequence. As the discussion proceeds from the arguments of the others, you can generate some more points. You note down these points and dynamically include them in your communication. It necessitates careful listening and on line analysis of the situation. Arrange and periodically rearrange the points, with necessary logic, supporting arguments, illustrations and facts. If you know some similar situation elsewhere and some good solution, you can cite the example of that. During your interaction you can identify some like minded people. You can join with them. You can support their arguments. They can support your argument. You can form a good cluster. Also, identify the people arguing in opposition. Prepare arguments to convince them with your idea. In a
group discussion, cross talks are not desirable, effective time management is important. In any group discussion or case study, the basic requirement is the convergence of the discussion to some common opinion or line of action. Some people may try to divert the issue and may work against the convergence. A good participant will help in the convergence process and prove his maturity. Otherwise, the leader or referee has to work actively to handle the situation. In a meeting of board of directors or meeting of heads of the departments or a meeting of engineers of different sections or a meeting of various principals at the university, frequently such situation arises. Some members help the chair to handle the situation. Some people work in opposite direction. The role of the chair person becomes critical in such a condition. Difference of opinions may be there, everybody has the right to present his view but, at the end, it is the responsibility of all responsible members to agree for and respect the common line of action.

Sometimes, the decision is already taken. The discussion is entertained and the smart chairperson manages to prove that the decision is jointly taken after proper brainstorming session. By following democratic procedure, he is successful in managing his personal opinion and decision as the consensus on the issue.

**Questions**

1. What is the scope of a group discussion at various stages?
2. How the group discussion is conducted as a part of selection process?
3. Explain the guidelines for the group discussion.
4. Discuss the etiquettes to be followed in a group discussion.
5. Explain Dos and Do nots for the group discussion.
6. Explain the significance of role playing in a group discussion.
7. What are the qualities assessed in group discussion?
8. Explain topic based group discussion and group discussion based on case studies.
9. Discuss the preparations necessary for group discussion on case studies.
CHAPTER VI
Effective Reading Skills

VI.1 Introduction

In our daily routine, we come across different types of readings. We read normal script with our eyes. Blind persons use special material prepared in braille and reading using touch sensation with fingers. In computer peripherals also, there is an arrangement of reading the data or information. It may be in a digital or a binary form, which is converted to an alpha numeric form. Earlier punch card readers were used. Now, the data may be on a tape, a CD or any form of memory with proper reading heads and system. In the morning, we start with reading a newspaper, while seeing the TV programmes through TV channels also, along with pictures and audio information, dialogue or music, some written messages are displayed. The written script may be for interpretation of audiovisuals, for advertisement or now a day’s breaking news are displayed by the TV channels or current rates of various shares along with their names are also displayed. In case of mobile phones, the phone numbers of the callers and called numbers and their names are displayed. By SMS short alpha numeric messages are transmitted, which are to be read. When we move out, there are mile stones, indicators, shop and street boards and advertising hoardings, which we read intentionally or unintentionally. Our written communication is by letters, memos, etc. in the form of typed, printed and faxed material. On computers, when we search some material or check emails, we require reading. Computer programmes are to be read. In sales and purchase, we are concerned with rates of items displayed. In hotels, we come across menu and bills. In our office, we are concerned with different forms of communication. The written communication is followed in most of the offices, for correspondence and documentation with ease of communication.

The general concept of literacy is the ability to read and write in the daily life. When a child is born, it is not able to speak, read or write. When it goes to school, it starts learning reading and writing. It learns first the mother tongue or regional language, and later on it may learn national language and international language. Those who are able to read may come across different forms of reading, at different times, for different purposes. For a literate person and an average professional, it is said that they spend about one sixth of their time in reading.

VI.2 Purpose of Reading:
The purpose of reading may be different for different persons, at different times. As mentioned earlier, in our day to day activities, reading is involved in various forms, for various purposes. But, it is one of the important modes of communication. It may be intentional or unintentional reading. A dumb person may not be able to hear. He can only read the instructions or information. A student is closely concerned with reading throughout his academic career. A
professor has to collect the latest literature and information. He has to read so that he can teach effectively. In computerized communication, we have to read emails and information on various websites and search sites. A news editor, proof reader or examiner, has to read as a part of his profession, for compilation, correction or assessment. In an office, the routine communication requires reading of correspondence for information, decision making or action to be taken. In an industrial plant, the instrument operator has to read the parameters or instruments or panels so that, he can control the process. We select the material, depending on the interest or purpose and give the attention in reading, which also varies with the purpose. When the student or a professor, reads for examination or teaching purpose, retention of the content is necessary. He proceeds slowly and carefully, when we read a newspaper, a novel, a magazine or a story book, retention is not important. We may remember something for our information but, remembering word to word content is not necessary. When a research scholar reviews the research papers, it is not necessary to read word to word thoroughly. He has to review what is done, what are the limitations and is there any scope for extension, improvement or finding a new direction in the approach. He has not to remember, retain and reproduce the content in the examination. His assessment in this aspect is just like an open book test. He should be able to correlate the references. In an official correspondence also, word to word details are not important. The points are picked up by the office superintendent or a section officer. He puts his note about information received, required to be sent or any action to be taken. The CEO (chief executive officer) may not read the complete letters. In SMS some short cuts are used in writing, which save writing and reading efforts, e.g. you written as U, two or to or too as 2. It should be read in proper context otherwise, it may mislead. When a lady reads some recipe, the constituents and procedure are important. When an answer-book is assessed by the examiner, thorough reading is necessary to check right or wrong. In reading a technical paper, the concept and design may be important. While assessing the PG or Ph.D. thesis, during reading emphasis may be laid on concept, originality and understanding. Factual data is more important. In a classroom teaching, the student hears the lecture by the teacher he also, reads what ever is written by the teacher on the board. Hearing and reading combines the two senses of ears and eyes. It proves to be a better mode of communication. The retention is better on the part of the students. Earlier the written material was available in a printed form. Nowadays, due to development of e-media and e-library, a lot of material is available in soft form. There is a flood of information and uncontrolled radiation of information, selection of useful material is a great challenge. A news reader has to read the news on the TV channel for the public. She has to just convey the news information to the public. She has to read loudly and precisely without missing any part, in a good, clear voice with proper pronunciation. The other forms of reading are silent. The other fellow may not know what you are reading.
The reading is also supported by your interest and background. For a person with a non-technical background, it may be difficult to grasp a technical article. Depending upon individual interest in poetry, literature, science, technology, politics, sports, entertainment, dramatics, a person may have affinity for a particular area and he may concentrate well in the reading of that area. When we say purpose of reading, most of our students are examination oriented. Their aim is to score maximum marks with minimum efforts. All of them may not be interested in fundamentals or depth of knowledge or extra reading. If a teacher gives good notes, they will not read a text book. When one good text book is available, they may not read other book or reference material. In an engineering college, we have to give them seminars, projects and extra assignments, which may induce them to go out of class notes and a textbook. When a student reads for examination, he can afford to omit some topics, due to good amount of overall option. He has to attempt limited number of selected questions to pass, if he is not ambitious about good marks, grades or medals. When a teacher reads to teach a subject, he can not afford to omit any topic. He has to read much more and that too, thoroughly. But, in one subject we normally plan for forty hours of teaching. So, his reading scope may be limited, if you plan to write a book on a technical subject, you cannot confine yourself to a single book in the subject. You have to cover large many books on the subject. Sometimes, for different topics, you have to read different books. You have to collect the best information and proper explanation. It requires a lot of efforts, first in reading and later on in writing. In general reading, our emotions are not attached with the reading. If an actor or an actress reads his or her script of dialogues he or she has to attach his or her emotions to the words uttered. Acting is combination of words, emotions, expressions, gesture and body language.

VI.3 Skimming and Scanning:

When we get some book in the library or as a complimentary copy, we are interested in knowing, whether the book is useful to us or our students or not. Many a times, different book sellers come to us, with a pile of books for recommendation for our library or for our students. First we may check the title. Sometimes the title is misleading. It is not giving idea about the subject dealt with. Even if it gives idea about the subject, the scope of coverage is not clear. Similar subjects may be covered at school, diploma, college, post graduation and research level, too. First we just go through the book in a fast forward mode. We turn the pages, try to read some titles and subtitles, some lines and try to pick up some key words that may help in deciding whether it belongs to the subject of our choice and justifies the subject. Nowadays, some technical books have rich index but, content is very poor.

In a research, when a Ph.D. scholar has to fix up his research topic, he runs through hundreds of references. In earlier days, hard copies of technical papers
were referred. Nowadays, on internet and in e-library, we get hundreds or thousands of references. The material is not the problem but, selection of useful material is a tough job. If you give a general search key, there may be a very large number of references. If you give a very narrow search key, you may not get a single reference. In the first round, the research scholar runs through the articles, papers or even abstracts of the papers. He is not interested in the detailed content. He wants to search for some key points or key words in the references. He sort lists the papers. If he finds some worth, he goes in to the details. This process of running through the book or reference is called skimming. It is an initial survey. In the survey of earth or moon through the satellite, initially larger blocks of areas are scanned. The resolution may be in terms of kilometers. It is similar to skimming. If some area of interest is located, only then it may be necessary to change the resolution to a meter or a square meter. In reviewing the literature or a book also, similar procedure is adopted. Skimming is a process of going thorough the material, in a fast forward mode. When we prepare a project proposal or a report for national board of accreditation or NAAC or proposal for new UG or PG programme, the complication may be done by a group co-ordinator. Before submission, the director of the institute or the vice chancellor, just goes through the report in general. He may not have the time to read it, word by word but, he may verify whether the required points are covered or not. For this purpose whole paragraphs or pages are read at a glance.

The normal reading speed may be, about two hundred words per minute. In skimming, the speed may be more than seven hundred words per minute. In this reference, it is a fast reading. Due to the faster process, the retention may be less than half. In reading other than that for examination purpose, retention is not so important. Skimming is useful in deciding the group for which it is written, the profession and level of the target group. Skimming also, helps in deciding whether the communication is a general report, a formal letter or an article or is meant for commercial purpose. The communication may aim at description of something, may be for information only, it may be for explanation purpose, instruction purpose or for convincing. Skimming gives general idea about the content, target group, purpose and nature of communication.

VI.4 Scanning:
Scanning is a detailed study of some printed material. In schools and colleges various text books are specified for different subjects. The teachers and professors, teach the subjects in the class. The student requires clear understanding of the subject. He has to go through the text book. He will read the book thoroughly, word by word. Only then, he is able to understand the topics under the subject. This reading is scanning the material. He has to go through the complete material at a low speed. He is not reading, just for the sake of reading, time pass or enjoyment purpose. Before examination, he has to read, understand and remember
the theory, description, derivations, concept, conclusion and applications, so that in examination he can reproduce the same. He has to convert the data or information into knowledge.

When a tender inquiry is floated and you want to quote for the item, you have to read and understand the specifications required for the equipment. After understanding only, you can quote your equipment. It requires scanning or detailed reading and study of the specifications. In assessment of answer book, the examiner scans the answer book to find, what is right and what is wrong in it. The proof reader of a newspaper or a book has to scan the script letter by letter and word by word to check the spelling mistakes, missing letters or words and to suggest corrections. A doctor has to scan the pathological reports thoroughly, so that he can prescribe the medicine. While accepting the role in a movie, serial or a drama the actor or actress can skim the script. But, during acting he or she has to scan and reproduce it. An essay written by somebody can be assessed by skimming but, a technical report or a technical paper requires scanning.

VI.5 Comprehension:

Only reading of newspaper, magazine or a novel may be for time passing. In this case, by default something may be left out in our memory but, we do not put our special efforts to understand, analyse and remember it. But, all the printed material may not be read just for reading. It is read for a specific purpose. It requires understanding of the material. After understanding the material, some actions are to be taken. After reading and understanding the material, in some cases immediate action may be taken, in some cases the action comes after a long time. For that time the information and understanding of the topic is to be retained. In a computer system we call a volatile and a non-volatile memory. In a volatile memory as soon as the supply is off, the content of the memory is lost. In an entertainment, news and movies, there is some information, which has not much future significance. If something is understood and remembered that is o.k. but, in most of the cases that information may not be significant for the future. We may not bother to analyse, understand and remember it. For a student, this approach is not advisable. The subjects in a particular semester are to be read and understood, so that he can reproduce the same in the semester end examination, some subjects are the prerequisites for higher semester subjects. Without retaining the knowledge of lower semester subjects, he can not understand the higher semester subjects. During the campus interview for the job, in a technical interview knowledge of subjects of all semesters is necessary.

After reading the document and understanding it, if it has long term requirement, it should be stored in the mind for a longer time. Comprehension of the material or information means retention of the information with proper understanding. Comprehension is first dependent on understanding.
Understanding depends on interest, concentration and the background. Many housewives can understand and retain maximum from the TV serials but, not from the discovery channel or business channel. The children can understand and retain maximum from cartoon films and video games. A student or a researcher has to develop the interest and necessary background in the concerned subject area. The professionals should develop the interest in the literature related to their profession. The comprehension also depends on the understanding of the language. Most of us are familiar with our mother tongue or a national language but, with the growth of our knowledge or profession we may learn other languages. Some of the books written by some authors are in a very simple language. During reading not much effort is required to understand it. The content is directly stored by the mind. It is possible to increase the reading speed. Some subjects are hard. A lot of technical terminology is used, which requires cross references for understanding. Some authors further make the subject harder by their style of writing. It slows down the reading and retention rate. In a hand written script, the handwriting, sometimes, makes it illegible or difficult to read. Some authors maintain easy flow of language. The topic is explained in a proper logical sequence. Such material helps in preparing the subject by self study, without guidance of anybody else.

VI.6 Improvement of comprehension skills:

VI6.1 Tips for improvement of comprehension skills:
Gradually proceed, step by step, in reading. If you directly start reading a higher level book, you may have a lot of difficulty. You may require a lot of cross references. Start with an elementary or an introductory book on the subject and then go to the higher level books.

Vocabulary: A good vocabulary helps in understanding the subject but, it should not come in your way. Keep a dictionary with you. Check the meaning so that, you have no ambiguity. You can underline the new words and understand the meaning later on. But, it may create some holes which may affect the understanding and retention.

Bandwidth: Wider bandwidth of subjects is desirable. Interdisciplinary knowledge helps in understanding any subject. That is why, at first year of engineering degree or diploma programmes, we have introductory subjects of other branches. Days of water tight compartments of knowledge are gone.

Scanning: Scanning following initial skimming may be more fruitful. Some authors give idea about the organisation of the book and explain how to go through the book. It may be useful in reading and understanding the content.

No bias: After reading only a small content, sometimes we are biased about the content, style of presentation or author. By reading it thoroughly and completely
only, we can have correct idea about the book, otherwise the bias and prejudice may affect our understanding and retention.

**Points:** As a student, form a habit of noting the points, so that you can recollect what you have read. Continuous reading may become monotonous. As a teacher, it is advisable to prepare lecture notes. After reading you force yourself to understand and express in your own words. It will enhance your understanding and memory.

**Notes:** As a teacher, when you prepare notes, you anticipate the questions that may be raised by your students. You prepare the questions and their answers, too. It will lead to perfect understanding of the topic and as a teacher your confidence will be boosted up.

**Interest:** Develop interest in the subject. If you feel that this subject is not useful to you, or you are not familiar with it or it is very difficult for you to cope up with it, you will be discouraged to read it. It will adversely affect your understanding. A good professor will introduce the subject in the first period, in such a way that the students will have an overall idea of the subject, they are made familiar with the applications and significance of the subject and students would be tempted to study and read it.

A good author should also write the preface in such a way that the readers will feel that it is the book of their choice or it is written for them.

**Speed of reading:** Different people may have their optimum speed of reading different types of material. Find your optimum speed, which is the highest speed at which you can read and still you understand and retain it.

**Faster Reading:** At primary or higher secondary level your scope of study is limited. As you go to a graduate or a postgraduate level, the books and references to be covered increase. By practice, you can increase your speed of reading, without losing retentivity.

**Concentration:** During reading, your mind should concentrate on the reading. Some students are forced by the parents to read for some examinations. They may read for larger number of hours and during sleepless nights but, they are not able to concentrate due to different types of diversions. If you can concentrate properly, your comprehension can improve. It is observed that by pranayam and
meditation, you can improve the mind power for understanding and retention.

**Environment:** Some people can concentrate in a closed room, full of silence. We are grown under different social and economical conditions. All the people may not be lucky to have special reading rooms. They develop the habit of reading under some disturbance only. Some people keep radio or TV ON during reading. It just provides the background music. The person is able to concentrate on reading, leading to proper understanding and retention.

**Involvement:** The authors write the novel in such a way that the reader actually enters the realm of the novel. The reader is fully involved in it. He experiences the same feeling, as the hero or heroin of the novel. It is just like virtual journey through the novel. In such cases the effect is the maximum.

**Analysis:** During reading some readers, simultaneously think about the concept, theory, experiment, event, etc. He analyses it. If he is convinced, he will remember it.

**Active Reading:** As mentioned earlier, some reading may be accidental, e.g. sign boards or mile stones or advertisements on the roads. Some reading may be casual for time passing or just for general information e.g. newspaper, novel, story book, magazine, etc. Active reading is for a specific purpose. It is for some examination, an interview, a presentation, teaching the students, preparation of a report or a proposal. In this case academic, educational, official, or business interest is involved. It is done with more responsibility and sincerity and it is fruitful.

**Training:** Nowadays, professional trainers are available for learning fast reading. They help you in increasing your reading speed, your understanding and retention of the information. Instead of letters, words and lines, you can learn to read paragraphs and pages at a glance.

**Inference:** A lot of efforts are made so that the computer can simulate the working of a human brain. So far as the memory is concerned, computer is powerful. Human brain understands, remembers, interprets, interpolates and extrapolates the information, by inference with many other things or events. No computer on the earth can compete with the human brain in this aspect. While reading also, if
our imagination is powerful we can understand and interpret certain things by inference or correlation with some other things. The information stored in this form has long lasting effects.

VI.6.2 Improvement of comprehensive skills is most useful for the students and professors. In a class room, there may be a large number of students, studying under the same professor, they read the same thing on the board, they read the same textbooks but, some of them are excellent, some of them are average and some of them are poor students. It is the reading comprehension, which makes the difference. Certain things depend on the external factors but, it more depends on the individuals. It comes by development of interest in the subject and keenness for the career. Some student says that I wanted to go to other faculty but, my parents wished, so I joined engineering. Understanding of the subject can be improved by homework, reading the background material and cross reference on the topic and subject. Usually, students rely only on the teacher and then they complain that they are given spoon feeding.

On one side, the comprehension depends on the reader and on the other hand, it also depends on how the written material is presented, so, that it motivates, encourages and facilitates the reading and retaining process. The information is not conveyed by only written or printed words. The style of letters may have a lot of variation. Larger font size of letters makes the reading easy. In special cases, larger fonts, capital letters, underlines, italics, etc. can be used to highlight some points and in some cases the variation is used. The variation is used to specify titles and subtitles. This type of variation also helps in breaking monotony.

The layout of any print material may have headings and sub headings, titles and subtitles. The description is usually supported by sketches, pictures, line diagrams, photographs, figures, graphs, bar charts and many visuals, along with proper labels. The pages are also divided in to various paragraphs, to discriminate and differentiate various points.

From the school days, we are given some practice about the comprehension. After reading a paragraph some questions are asked, to review what is read, how much is understood and how much is remembered. The question may be aimed at the subject matter, purpose of the author, approach of the author, the necessary background or presumptions, effect of the
material, extension of the idea, and conclusion. Sometimes a reader is required to suggest a title to the topic or summarise the topic. It is suggested that for practice purpose, in the tutorial sessions, the students may be given some passages to study and they may be asked to answer some questions based on the given passage.

Questions:
1. What are the different forms of reading, which we come across in our day to day life or job?
2. What are the different purposes of reading?
3. Explain the skimming and scanning forms of reading.
4. Explain in detail the skimming form of reading.
5. Explain in detail the scanning form of reading.
6. Explain at length the process of comprehension.
7. Discuss in detail, how comprehension skill can be improved.
8. How the interest, speed of reading and concentration affect comprehension?
9. How environment, involvement and analysis help in improving comprehension?
10. How active reading, training and inference help in improving comprehension?
CHAPTER VII
GRAMMAR AND VOCABULARY

VII.1.1 Vocabulary

We step into the realm of language, by first learning the alphabets. Then we study words and grammar. As we proceed in our study, the stock of words in our bag of knowledge goes on increasing. The accumulation of knowledge of words building our vocabulary may be faster initially. During the primary and secondary school level, when we learn the (English) language, the flow of new words is faster. The charging of the battery of vocabulary is initially very fast but, gradually it saturates. During engineering study, more and more technical words may be added to our vocabulary but, addition of general words may be less. It does not enrich our general vocabulary much. Our exposure is limited and it may be almost same for the whole mass of students in our group. The fluency of expression and confidence of communication comes with richness of vocabulary. In the economy of the country, the money lying in the bank or the treasury, does not contribute to the economic growth but, the turnover or circulation of money is the catalyst of economic growth. Similarly, the words lying idle in the safe of our vocabulary are not significant. The frequency and smoothness of flow of words bring effectiveness of communication. We can not underestimate the importance of vocabulary. If you have a treasure of words, you can play with them, you can use them in different forms, for different purpose and create wonders.

It is discussed that in the normal course, the growth of vocabulary is saturated. You require special efforts for the enhanced growth of the vocabulary.

VII.1.2 Improving Vocabulary:

- Vocabulary can be improved by reading. It can not be improved by reading dictionary but, general reading.
- The beginners may face teething trouble. To start with, read regional newspaper and English newspaper, one by one. While reading English newspaper, if there is any doubt, about the meaning of some word, again refer regional newspaper.
- Read material that involves more and more new words. Understand new words with reference to the context. If necessary, use dictionary and learn other modes of using the same word for different purpose.
- Try to use the newly learnt words whenever chance is available. Due to this habit, you will remember the word and also, how to use it.
- Keep record of new words studied. This list should continuously grow. No word should be deleted from your vocabulary.
- If the new words are spoken loudly, they may be stored in the memory in a better way.
• Sometimes the words can be remembered by remembering similar and opposite words for the same.
• If a word is an adjective or an adverb, it can be remembered by establishing the reference object or verb with which it can be used.
• Sometimes memory tricks or mnemonics are also useful in remembering the word. It can be broken into two or three parts, forming some small words, conveying different meaning but, this exercise goes a long way, in setting the word in our mind.
• While reading or writing, sometimes the meaning or spelling is not sure. Dictionary should be used without hesitation. Hard copy of the dictionary should be readily available on the reading/writing table. On internet e-dictionaries are also easily accessible.
• Card games for playing with words are also available. In these games, words are to be started with some letter or ended with some letter or to be formed using some letter in between. It prompts the mind to reshuffle the vocabulary. It requires partner for playing the game.
• On computer e-card games can be played by a single person.
• On internet, some training programmes offer visual vocabulary. The words can be understood and learnt using the visuals provided with it. Sometimes the access may be free and sometimes on payment and registration basis.
• Some students prepare for TOEFL, GRE, SAT, IELT, etc. For them it is necessary to enhance the vocabulary significantly in a small time. Special books, e-books, e-learning programmes are available on internet. There are specific vocabulary lists. There are tips to learn them.
• There are groups on internet, sharing the tips, methods and sources for improving vocabulary.
• Online and offline vocabulary tests allow self assessment of vocabulary and growth of vocabulary for an individual.
• Same word can be used in different context for different meaning. Some words pronounce same, the spelling and meaning may be different. In oral and written communication, use of such words help in creating dramatic appeal. They can be remembered easily in that form.
• Some people use a cross word puzzle, just for time pass or an entertainment but, it also helps in improving vocabulary.
• Word lying in the world of dictionary maybe useless but, word in your hand may sometimes prove to be a sword. Same is true for journalists and writers.
VII.2 Grammar

In any language, grammar provides the scientific foundation. If the foundation is strong enough, any structure can be developed on it. Artistic design of an architect has no meaning, without the base support of foundation. Similarly the art of language can be developed with beautiful words, if there is a strong grammar at the base. Coverage of complete grammar is beyond the scope of this book. Some important aspects, necessary for good technical communication are dealt with, here. In technical communication, grammar is not very critical as general communication. But, it is a question of impression. When a person at an executive level communicates, he can not afford to neglect grammar. To make a good beginning, students should be careful about the grammar in their communication.

For most of the people, English may be their second language. On a new, unknown field, it may be difficult to run. It may start with walking first and initial walking may be just creeping or crawling. Most of the people are afraid of grammar. It should not be a hurdle. If we can not chew, we have to swallow it. Good trainers make it a sugarcoated bitter tablet, which avoids the initial hesitation of even swallowing it. The requirement of English teachers in an arts faculty may be quite different. For technical persons the requirement is limited.

VII.2.1 Tenses and Concept of Time:

The most common problem faced in communication is about tenses. It leads to frequent mistakes. There are three tenses: the present, the past and the future tenses. Tenses also convey the time frame of activities. Some activities or events are recurring. They take place again and again. Some event or activity is going on and we try to describe it. The cricket commentary or the live telecast of any event, are the good examples. In a day to day life also, we have to mention some of them, when they are occurring. Some events have occurred in past. We want to describe it or try to recollect it. Some events are going to occur in future. They may be individual activity or future plan to carry out some activity in future or prediction about future policy of the government, intention of individual or organisation. There are simple and present continuous tenses.

Simple Present Tense: Some general truth and things that happen sometimes or at all times are expressed by simple present tense e.g.

- He loves movies.
- I daily get up at 7.00 a.m.
- Sun rises in the East.
- Your flight departs at 10.00 a.m.
- We usually enjoy the vacation at the hill station.
For a third person “s” or es is used e.g.
- It does not matter.
- Swenee goes to Udgam School.

In simple present tense the negative sentences are made as follows:
- I do not take tea or I don’t take tea.
- You do not study regularly.
- She does not know French.

With questions the simple present tense is as follows.
- Do you like movie?
- Does she come here frequently?
- What do you do during vacation?
- How do you learn English?
- Where does he work?
- When do they come to the college?

**Continuous present tense:**
As the name indicates, the continuous present tense is used, when the action is continued, when it is mentioned.
- He is writing now.
- They are reading now.
- You are coming.
- The college is planning for starting a second shift.
- I am going.

The negative form of continuous present tense is as follows:
- He is not writing now.
- I am not playing now.
- They are not writing.
- You are not coming
- Manisha is not going.

The question form with continuous present tense is as follows:
- Why is he not writing?
- Why are you not coming?
- Why is she not going?

**Perfect Present Tense:**
Perfect Present tense is as follows
- I have learnt.
- You have studied.
- He has done the right thing.

**Future Tense**
To indicate future event, “will” and “shall” are most commonly used. There are many other models also. Consider simple future tense as follows.
• I will come to your house.
• He will join me.
• She will go to the school.
• You will help me.
• They will play.
• I shall see a village.

The negative for future tense is as follows:
• Niha will not join me.
• Swenee will not go to the school.
• Manisha will not attend the office.

Some future intentions or predictions are expressed as follows:
• I am going to score distinction.
• Umesh is going to start a new business.
• Government is going to review agricultural policy.
  Instruction and official plans are indicated as follows:
• The heads of the departments are to meet on this Thursday.
• The Prime Minister is to address the science congress next month.

The events which are going to take place soon are indicated as follows:
• The train is about to leave the platform.
• The Chandrayan is about to touch the surface of the moon.
• The project is about to be completed soon.

Perfect future tense is expressed as follows:
• I will have completed the work.
• Swenee will have joined college in the year 2016.
• He will have retired after five years.
• Manisha will have reached a senior position.
• You will have settled in USA.

Past Tense:
Simple past tense is as follows:
• I reached there.
• Manisha came with Swenee.
• Niha did not come.

Continuous past tense is as follows:
• I was working for the government at that time.
• He was not working with me.
• You were working with some industry.
• I was not working in that industry.
• You were not working in a government.
• She was not attending the classes.

Perfect past is as follows:
• I had taken voluntary retirement at that time.
• You had come to my place, when I was at Bhavnagar.
• Umesh had started private practice before his marriage.

Perfect past tense is used, when the event or activity, which is already completed, is correlated with some other past event.

Can and could indicate capability.
• I can teach any subject of electrical engineering.
• I could complete only ninety percent of the work.
• I could have completed the work, if I were given more time.
• You could have become principal, if you were given extension.
• He could not succeed because, he had no support.

Conditional possibility is indicted as follows:
• I would go, if permitted.
• He would resign, if he is blamed for the failure.
• You would progress, if opportunity is given to you.

VII2.2.1 Voice
In English language two voices are considered. They are called active and passive voices. Active voice is a direct way of expression and passive voice is an indirect way of expression.

I am writing an article – it is an example of an active voice. Here the word I is the subject and book is the object. An article is being written by me – it is the example of a passive voice. Positions of subject and object are interchanged.
• Niha attends a marriage party. (Active)
• A marriage party is attended by Niha. (Passive)
• Manisha visits the office. (Active)
• The office is visited by Manisha. (Passive)
• Umesh audited the accounts of the company. (Active)
• Accounts of the company were audited by Umesh. (Passive)
• Swenee was reading the book. (Active)
• The book was being read by Swenee. (Passive)
• Dr. M.D. Desai has written the book. (Active)
• The book has been written by Dr. M.D. Desai (Passive)
• She is cooking the food. (Active)
• The food is being cooked by her. (Passive)
• Niha will visit Goa. (Active)
- Goa will be visited by Niha. (Passive)
- You do not repeat the mistake. (Active)
- The mistake should not be repeated by you. (Passive)
- He promised to look into the matter. (Active)
- Promise to look into the matter, was given by him. (Passive)
- Why you have broken the glass? (Active)
- Why the glass has been broken by you? (Passive)
- Why you do not attend the classes? (Active)
- Why the classes are not attended by you? (Passive)
- Why you will not clear the examination? (Active)
- Why the examination will not be cleared by you? (Passive)
- I can not support you. (Active)
- You can not be supported by me. (Passive)
- I will be joining you. (Active)
- You will be joined by me. (Passive)
- Who takes the responsibility for this problem? (Active)
- By whom the responsibility for this problem is taken? (Passive)
- When Swenee will pass 12th standard? (Active)
- When 12th standard will be passed by Swenee? (Passive)
- I could cancel the visit. (Active)
- The visit could be cancelled by me. (Passive)
- You would have been helped by me. (Passive)
- I doubt the promises by the mobile company. (Active)
- Promises by the mobile company are doubted by me. (Passive)
- I should win the competition (Active)
- The competition should be won by me. (Passive)
- I hope your co-operation in the matter. (Active)
- Your co-operation in the matter is hoped by me. (Passive)
- They are raising the funds for the flood relief. (Active)
- The funds for the flood relief are being raised by them. (Passive)
- What do you expect form me? (Active)
- What is expected by you from me? (Passive)
- What you were doing before this job? (Active)
- What was being done by you before this job? (Passive)
- What will you do tomorrow? (Active)
- What will be done by you tomorrow? (Passive)
- I have to assess answer books. (Active)
- Answer books are to be assessed by me. (Passive)
- Do not take a chance. (Active)
- Chance can not be taken by you. (Passive)
- Who has given the authority to you? (Active)
- By whom authority has been given to you? (Passive)
• Gentlemen will follow rules. (Active)
• The rules will be followed by gentlemen. (Passive)
• I like light music. (Active)
• Light music is liked by me. (Passive)
• We worship god. (Active)
• God is worshiped by us. (Passive)
• I have not misused the freedom. (Active)
• The freedom is not misused by me. (Passive)

The sentences may be affirmative, negative, interrogative, etc. They may involve present, past and future tenses of simple, past and continuous forms. The illustrations given here try to cover all the possible types of sentences in various tenses. Negative forms are also covered. Active forms of the sentences and their passive forms are illustrated.

VII 2.2.2 Passivity:
To convert awkward sentence construction, with indefinite or vague noun as subject, passive form may be used, instead of active form.

Somebody sends blind calls to actress Aishwarya Rai.
In this active form somebody is not important but harassment to Aishwarya is more important.
Blind calls are received by actress Aishwarya Rai from somebody.
This passive form is more effective.
One observes lack of sincerity among the students.
Here one observer is not important.
Lack of sincerity among the students is commonly observed.
It is more effective.

In some cases, the subject of the verb or action is not important. The action taken is more important i.e. Peon served the notice to Mr. Sharma.
Here peon is not important. Serving of notice is important.
Mr. Sharma was served the notice by a peon.
Somebody damaged Tajmahal.
Here somebody is not important. Tajmahal is important. So, “Tajmahal was damaged by somebody” is a better form.
Shri Rabindranath Tagore received Nobel Prize.
If we want to highlight Nobel Prize the passive voice may be more effective.
Noble prize was received by Shri Rabindranath Tagore.

When two persons are involved in a sentence, the active form may highlight one person, which is not desirable. In this case the passive form can be used to highlight the other person who is affected by the action of the first person.
Godse had killed Gandhiji. 
This form of the sentence highlights Godse, who is not the hero. Gandhiji is the world famous personality. So, the passive form as follows is more effective. Gandhiji was killed by Godse.

American public elected Mr. Obama as President. 
Here election of Mr. Obama is more important. Mr. Obama was elected as President by American Public – this passive form is more effective.

Some decisions or law create dissatisfaction among students or employees or public. In such cases usually passive form is used and the decision maker or authority is hidden intentionally. Instead of using active voice like, The director prohibits mobile phones in the college. we find passive voice without mention of the authority as follows. Mobile phones are prohibited in the college. Instead of active voice Government has reduced the subsidy on oil prices, The subsidy on oil prices has been reduced. In both the cases using passive voice, the mention of authority is avoided. When credit is to be taken or votes are to be fetched, active form may be used.

- I am pleased to appoint you as the Vice President of the company.
- The government has decided to raise the dearness allowances of its employees.

VII.2.3 Conditional Sentences

The types of sentences illustrated earlier, contained past, present or future tense. The conditional sentences are somewhat different. These sentences are composite sentences. In these sentences some condition is considered, which may be real or imaginary. One part of the sentence states the condition and the other part of the sentence indicates the action under that condition. Depending on the three conditions the conditional statements are classified as probable conditional sentence, improbable conditional sentence and impossible conditional sentence.

VII.2.3.1 Probable Condition
If we go in an airconditioned (ac) coach, it will be comfortable. It discusses the option or suggests the option, which helps in taking the decision. Here first part of the sentence, if we go in an airconditioned (ac) coach represents an open condition. It is called if clause. It uses simple present tense. The second part of the sentence, it will be comfortable it is in simple future tense. Here, ‘if’ clause indicates the probable condition or action which may occur or may not occur. If it occurs, it is the cause. It
leads to the second action, which is the effect or main clause here. Cause and effect can be kept in mind.

- If she prepares well, she will face the examination confidently. The clause, if she prepares well is in simple present tense. The main clause, she will face the examination confidently is in simple future tense.

- If I invest now, I will have no problem in future. Here, if I invest now is the ‘if’ clause in simple present tense and I will have no problem in future is the main clause. It is in simple future tense.

There are some exceptions to the rule explained here. Some universal truth or rule or law is stated differently.

If you help your self, God helps you. Here the first part is the ‘if’ clause. The second part is the main clause. They are like cause and effect. But, the whole sentence is a universal truth that God helps those, who help themselves. So, both parts of the original sentence, called if clause and main clause use simple present tense.

If you break the law, you get punishment. If a wooden object is immersed in water, it floats. Here the first sentence states the legal position. The second sentence states the law of physics. In both the cases the ‘if’ clauses and main clauses are in simple present tense.

VII.2.3.2 Improbable Condition:
In this type of conditional sentence the condition is hypothetical. The condition is not realistic. But, the sentence indicates, what might happen if that condition realizes. Here cause and effect both are imaginary. It is considering possibility of event in cause and effect form.

- If she had a son, she would celebrate his marriage. The lady has no son. She thinks of a son, in the ‘if’ clause. In the main clause, she again thinks of celebrating his marriage which is not realistic without a son.

- If she contested the beauty contest, she would be miss world. Here, the ‘if’ clause considers her possibility of contesting the beauty contest, which is not probable. So, her becoming miss world is improbable.
In all these cases the ‘If’ clause has no probability of occurrence of first event, which is the cause. In the absence of cause, there is no question of the realization of the effect, considered by the main clause.

- If you threw a lighted match in the petrol, it would catch fire. It may be used to give warning or create seriousness here. Basically it conveys that it is not advisable to throw lighted match in petrol.

- If you over controlled your son, he would leave home. It explains not to over control your son.

- If you requested me, I would help you. It stresses that, if you request, I can consider to help you.

In all the cases, if clause has past tense and the main clause uses would or should.

In special cases following variation is used.
- If I were prime minister of India, I would remove poverty from the country.

**VII 2.3.3 Impossible Condition:**
There is a very narrow difference between improbable condition and impossible condition based sentences. In improbable condition, it suggests that if the first thing happens, it might lead to the second thing. In the impossible condition the ‘if’ clause, talks about the event which has already taken place the other way. By considering the opposite condition, a person tries to justify his failure or limitations blaming the situation. The past situation can not be changed now. So, result can not be reversed.

- If my father had a lot of money, I would have been a businessman. He tries to justify that his father had no money. So, he is not able to become a businessman. It is not possible to change past condition of his father now, so there is no question of his becoming a businessman.

- If I had got majority, I would have become chief minister of the state. I could not get majority, that is the reality and that is a past event. Now, the reality can not be changed. So, I can not become chief minister. It is just a consolation.

- If the papers had been easy, I would have got first class. I could not get first class. The papers were easy or tough. But, they can not be changed. It is just an excuse.
If he had joined diploma after 10th standard, there would have been no tension of 12th examination.
He has missed the opportunity of joining diploma after 10th standard. Now, there is no option of avoiding 12th examination.

In all these cases the if clause refers to some event or decision. It is a past history. It has led to some condition. As the clock can not move anticlockwise, the thing which is done can not be undone. Under this condition, the consequence remains the same, it is unalterable. But, sometimes we blame the situation or confess our mistake or analyse the happening or repent by this type of sentences and get consolation.

In this mode of sentences if clause uses past perfect tense and main clause uses would have or should have form.

Just for comparison the three modes can be reviewed again.

<table>
<thead>
<tr>
<th>Conditional mode:</th>
<th>Verb arrangement</th>
<th>Main clause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probable condition</td>
<td>Present</td>
<td>Future</td>
</tr>
<tr>
<td>Improbable condition</td>
<td>Past</td>
<td>Would or should</td>
</tr>
<tr>
<td>Impossible condition</td>
<td>Past perfect</td>
<td>Would have or should have</td>
</tr>
</tbody>
</table>

In some special cases there may be different combinations, also. In case of warning it may be as follows:
Confess the mischief or get rusticated
Advice form may be as follows:
Unless you work sincerely, you can not succeed.
Condition can be stated as follows:
You can work with us, so long as you do not cheat us.
Some instructions can be passed as follows:
Ask him to sit, in case some visitor comes.
Assurance can be given as follows:
Should you face any problem, contact me immediately.
Possible action under some condition is stated as follows:
Had I visited Ahmedabad, I would have met you.
It is one form of explanation, to please the other person.

VII 2.4  Prepositions
In oral or written communication, preposition is used to correlate the things, indicated in the sentence.
A teacher is teaching in a class room.
Here, the teacher is doing the act of teaching. It is teaching. Classroom is involved in the teaching process. It is implied here that for teaching, the teacher is in the classroom. The word “in” is used to indicate the position of the teacher in the class. So, as the word “Preposition” indicates, it is used to specify the position of the subject with respect to the other thing providing the space or time frame. This word is usually before the space object. So, it is called preposition. There are number of prepositions like of, to, in, for, on, over, under, beside, etc.

- Devanshi goes to the college
- For thirty two years, I worked for the government.
- Himanshu is sitting on the chair.
- Birds are flying over the field.
- Swenee is sitting between Manisha and Umesh.
- Chetna is sitting beside Devarshi.

VII.2.5 Concord
In each language, there are certain rules, to achieve proper agreement or to establish harmony among the nouns, adjectives and verbs. The Process is called concord, following certain concord rules, which are language specific. The concord discussed here, considers some rules in English language, to achieve proper agreement or establish harmony among different components in the sentence. It mainly considers, the variation in verbs with respect to singular or plural form of subject nouns. In general, adjective is not affected by the noun.

- Intelligent man or Intelligent men
- Intelligent woman or Intelligent women
- Successful girl or Successful girls
- Successful boy or Successful boys

The adjective intelligent or successful is not affected by a male or a female and one or more persons.

There may be some exceptions.
Smit is a handsome boy.
Nishita is a beautiful girl.
The flower is beautiful.
The word handsome is generally used for the males and beautiful is used for the females. For a flower, adjective beautiful is used. It can not be called handsome.
Pushpa loves her son.
I love my son.
I love my daughter.
Pushpa loves her children.
You love your children.
Parents love their children.
The verb love or loves is decided by first, second and third person in singular or plural form in simple present tense. It is independent of the object son or daughter or children. When a group of nouns is considered as a group, the verb may correspond to one noun. In this sentence itself, due to group of nouns used as subject, “is” is appropriate.

There are different types of nouns. Here, due to types of nouns, “are” is used.

Set of instructions is called a microprocessor programme.

Due to set of instructions as one group, “is” is used.

When some expressions are used with the object, the action is done by more than one persons but, the verb used corresponds to a single person.
The teacher, along with his students, enters the laboratory.
The teacher and his students enter the laboratory.
Suresh, along with his family, is attending the marriage. Sushmita Sen, like Aishwarya Rai, is world famous. The head of the department, together with his faculty, deserves the credit.

In addition to academic excellence, all round development is necessary.

The director, accompanied by his wife, was present in the felicitation.
Quality, as well as number of students, is important.

In these illustrations Suresh or teacher or Sushmita Sen or head of the department or director is not alone. There is or there are additional persons with him. But, he or she is considered as the subject and single third person verb is used.

Some nouns due to presence of “s” at the end appear to be plural form but, are treated as singular form.
There is no news, from you.
Dhoni played a captain’s innings.
Billiards is a royal game.
Physics is a necessary subject, for engineering.

Some nouns are plural form. Usually they are used with plural form. To be more specific, some times, a word pair is added before the noun.
The scissors are blunt.
The trousers are colourful.
The shorts are very short.
Jeans are very popular among youngsters.
This pair of scissors is very nice.
This pair of trousers is selected by me.
That pair of shorts is already sold.
My jeans pant is not comfortable.

VII2.6 **Idioms**

Sometimes, the oral or written communication may be perfect with reference to the language. There may not be any mistake of grammar or spelling or pronunciation but, it may become monotonous. In our food we eat many items, which may have the same or similar core ingredients. Then, why there are so many recipes and so many varieties in food? The variation is necessary to satisfy variety of tastes, to bring some innovation, to make the dish colourful. Apart from, cooking the dish, serving becomes more important, in some cases. It attracts the customers. It helps in establishing the brand name. It satisfies wide range of customers. Why Mc Donald has become so famous, all over the world?

In a language, in oral and written communication also, variation and innovations of presentations are very useful. Some people are very good orators or good communicators or good authors or good poets. They do the same thing but, differently, compared to others. They are able to create more interest among the readers and audience. It is necessary to create some dramatic impact in the oral speech or a written article. One of the powerful tools available in all the languages of the world is idioms. It adds colours, spices and variety. It is reported that Chinese language is very rich in idioms. In English language also, idioms are extensively used. In many cases, idioms grow with the culture. They are usually region or community specific. Idiom is a phrase made of number of words. In general language, the phrase carries a different word meaning but, when used as an idiom in a particular reference, it carries a totally different meaning. So, for the beginner or an outsider in a particular language, it is difficult to understand and interpret the idiom. Special study of idioms in a particular language is necessary for this purpose. Otherwise, it may create misunderstanding. Effort is made to explain some of the idioms and their use. It is not possible to cover all the idioms here.

- Those people who are not ready to take the responsibility, they turn their back on the boss. They escape the responsibility by giving up the work.
- In over enthusiasm, some people try to bite off more than they can chew. Accept work beyond capacity.
- To get the sponsor for the event, we had to scrape the bottom of the barrel. Means it was the worst experience.
• In your presentation, I find a lot of grey area. It means missing part, ambiguity.
• A good boss gives credit to his junior for a good work. Means he appreciates.
• Eager beavers in the class, submit the assignments in time. Enthusiastic (students)
• It was very boring for the early birds, as the train was quite late. Those who reported very early were bored.
• Nanotechnology is such a vast area that we can only scratch the surface. Means some elementary work is possible.
• The chief minister of Gujarat has set the ball rolling for the industrial development in the state. He has made a good beginning, initiated.
• The management has made all efforts to avoid strike, now the ball is in the court of the union leader. Means it is the responsibility of union leaders.
• The union leader lost the battle as he could not convince the management and employees both. Means was not successful.
• The bonus declared by the managing director is not sufficient but, beggars have no choice. No scope of complaint for something free.
• As the crime could not be proved, the judge had to give benefit of doubt. Accept the arguments of otherside, take a safer course.
• The death of the police officer was a cold blooded murder by the terrorist. It means ruthless or cruel.
• Immature decision and action by a leader may rock the boat. Create problem for the others.
• Poetry can not be bread and butter for a poet. It can not be a source of regular income.
• The bubble of world economy has burst. Sudden unexpected happening
• During election campaign, the political leaders promise to solve all the problems at the touch of a button. Suddenly with least efforts
• Any entrepreneur can not be successful, without taking risk and hard work. He cannot have his cake and eat it too. By sparing efforts and avoiding risk, success can not be achieved
• In getting the first rank there was a neck to neck competition. Close or keen
• The student was given number of warnings in the past. But, finally the principal said enough is enough. It should stop. No more chance.
From a renowned thief, just by change of heart Vishwamitra became a great saint. 
Change of mentality or behavior

At present, the state is progressing by leaps and bounds. 
At tremendous rate

Before getting an admission in an engineering college or a management institute, some students see the dream of becoming the managing director of a multi-national company. It is just like counting the chickens before hatching the eggs. 
Unrealistic future planning

To secure a gold medal, round the clock study is necessary. 
Consistent throughout the day

Do not dream of becoming a millionaire over night. Wake up and then smell coffee. 
Be realistic. Smelling coffee in sleep is not possible.

The strikers and protestors do not see the other side of the coin. 
Balanced thinking or view

Swenee cleared 12th standard with flying colours and got admission to a college of her choice. 
Good merit

In some offices, when the boss does not take the responsibility for the blunder, a junior person is made a scape goat. 
Victim

He spends the whole day, without any fruitful activity. He is a couch potato. 
Lazy or useless

Recently the relations between the two countries are very tense. It is necessary to break the ice. 
Make some efforts for change or improvement.

He created trouble for her and now he is shedding crocodile’s tears. 
Artificial sympathy

When fraud was carried out by the chief operating officer of the company, the governing body was in the dark. 
Uninformed, ignorant

We have discussed a lot about the issue. Let us call it a day. 
Stop the discussion

Carrying out research is not a child’s job. 
Simple, easy

While purchasing the luxury items, the youngsters should cut the coat as per the cloth. 
Spend as per paying capacity

All students are interested in a White Collar Job. 
Decent job without labour
VII.2.7 Confusables

When a beginner puts steps on the land of English language, he tries to learn grammar for the language. He also builds his vocabulary by learning different words. In this process of learning English language, he comes across some common problems, faced by many beginners. While reading, he comes across some words with same spelling. The dictionary gives different meanings for the word spelt in a particular form. Without reference to context, it may be difficult to select the meaning. Sometimes, the spelling is same and the pronunciation and meaning are different. In some cases the pronunciation is same, spelling is slightly different. All these cases create a lot of confusion while reading or hearing or writing or speaking. It is necessary to study all these possibilities as confusables.

VII2.7.1 Homonyms: Homonym is a group of words, with same spelling and same pronunciation. But, these words have different meaning in different applications in different contexts. This property of sharing common spelling and common pronunciation is called homonymy.

Homograph: Words with same spelling irrespective of the pronunciation are called homographs. So, homonyms are also homographs. But, all homographs are not necessarily homonyms.

Homophones: The words which are pronounced in a similar fashion, irrespective of the spelling are called homophones. The spelling may be different. So, homonyms are also homophones but, all homophones are not necessarily homonyms.

Heteronyms: There are words with same spelling but, different pronunciation called heteronyms. They are homographs but, not homophones. They can be also called heterophones.

Illustrations of homonyms: The word right can be used to represent one side of the body. Right hand side, right part of heart, etc., It is also used to indicate rightness or correctness. Everyone thinks himself to be right and others wrong. One more use is as follows. Freedom is birth right of everybody. Means from birth everybody is entitled for freedom. So, word “right” has homonymy. It belongs to the group of words called homonyms having same spelling and same pronunciation.

- Left is opposite of right. Left is also past tense of leave.

Swenee writes with left hand.
I leave for Bombay.
I left for Bombay – I started for going to Bombay.
So, homonym represents a set of words. A member of this set has words with same spelling and same pronunciation but, these words can be used to represent different objects or properties or actions.

Branch:
There are number of branches of engineering, like civil, mechanical, electrical, etc. Here branch is related to different areas of engineering education and application. State Bank of India has its branches all over India. Here branch indicates the physical location, area or city where the bank offers services. A tree has number of branches. Here branches represent subdivision of the trunk or stem of tree further.

Trunk: lower part of a tree, a metal bag for clothes, long nose of elephant.
- The trunk of coconut tree is usually thin and large.
- My grand father stored his clothes in a trunk.
- The elephant showered water from its trunk.

Mine:
That book is mine – it belongs to me. During the tour, the students visited a mine of coal. Indian Institute of Management has proved to be a mine of entrepreneurs – Rich source of entrepreneurs.

In a dictionary, we can find hundreds of words having common spelling and pronunciation. The meaning of these homonyms depends on the reference to context and application.

- Umesh parked (kept in specified area) the car outside the park. (Garden)
- When policeman suspected a stranger, asked him to raise his arms (hands) and checked that he had no arms (knife, pistol etc.)
- Swenee draws nice picture.
- Indian team was able to draw (no decision) the match.
- To prove majority, both the major parties were trying to draw (pull) the independents to their side.
- Niha prepared a jam (sweet pickle) of mango. Manisha was trapped in a traffic jam (crowding).
- A machine has number of parts (components). Jayesh took part (role) in a drama.
- The northern part (region) of India is very cold during winter.
- I do not know how to type (Printing on typewriter). It is difficult to solve this type (kind) of problems.
- I do not mean (intend) to say like that. He is a mean (narrow) minded person. It means, (implies) that you do not agree with me.

A word means a set of alphabetic characters.
• In the sun **light** the garden looks beautiful but, at night it looks very beautiful.
• Wood is **light**. (less gravity)
• The problem is very **light**. (not serious)
• She **can** not (is not able to) lift a **can** (container) of milk.

VII.2.7.2 Homophones:
Some words have some difference in spelling but, they are pronounced in such a way that they sound to be same.
Swenee goes to Udgam school.
Two girls from her flat, go to Udgam school.
She said I love you. I said I love you **too**.
Means, I also love you.
The cake is **too** big to eat – very big to be eaten.
It is a regular feature of our activities.
We normally **eat** rice at lunch.
Deer can run very fast.
My dear friend, please hear me.
I am not **here** (at this place) to **hear** (listen) your complaints.
I went **by** a scooter to **buy** vegetables.
In the fair, there were many fare girls.
**You** just write five words starting with **U**.
Umesh is very serious about his **career**. (profession)
We sent the luggage by public **carrier**. (Luggage carrying vehicle)

**Heteronyms**: These are the words with same spelling and different pronunciation, to convey different meaning.
• You **read** this book. (simple present tense)
• You have **read** this book. (complete past tense)
• I **may** visit Singapore in the month of **May**.
• The **wind** (movement of air) was flowing heavily.
• He could not **wind** (arrange the wire properly) the coil for the electrical machine.
• Japanese people **bow** (move) down to greet the guest.
• **Bow** is used to release the arrow.
• He **leads** a political party.
• **Lead** is a metal.
• The child was about to **tear** (make pieces) the page.
• The girl was so ashamed that she was in **tears**. (weeping)
• He **wound** the armature winding but, in that process he got a **wound** (injury) on his hand.

Some words have somewhat similar pronunciation but, exact pronunciation is somewhat different. They look like homophones. Actually they are not. There should not be any confusion among them.
- Manisha has purchased a big house with a bank loan (borrowed money) which has a beautiful lawn (green grass) in front of it.
- Sangeeta has not done (no action) anything wrong.
- At dawn (early morning) it is pleasant to see the rising sun.
- Do not waste (spend) your time in seeing useless programmes on TV.
- After the age of forty, people are not able to control the waist (middle lower part of the body).
- Rats (mouse) eat away a lot of grains.
- Rates (price) of electronics goods go on decreasing
- He is a brave man.
- I will discuss only main (important) points.
- The vice chancellor signed the letter.
- The crown of the king was shining (glittering)
- The water was warm (little hot) but, still we found some worms (insects) in it.
- Smit is very tall. (more height)
- While entering the express highway, we had to pay toll (government duty) tax.
- Reliance mall is very big.
- He has a mole (spot) on his chest.
- He kissed her in a public park.
- The keys of the hotel were lost.

VII 2.7.3  **Eponyms:** In different countries and in different cultures and even in science, eponyms are considered. The Eponym may be a historical, mythological, political or a fictitious personality or a character or a thing. A place, tribe, religion, discovery, hypothesis or any other item may be named after that person or character or item. The names of some cities, countries, monuments, places, restaurants, etc. have come like that. The English calendar and year system is related to Jesus Christ. It is called year 2013 AD now and earlier years are referred as B.C., before Christ. Like that Gandhian era, Churchil era, etc. refer to specific time span. Some cities are named Washington, British Columbia, etc. Airports are known as Kennedy Airport, Indira Gandhi Airport, Chhatrapati Shivaji Airport, etc. Like that, many inventions, mathematical theorems, laws, diseases, drugs, etc. are known after the names of the scientist, inventor, researcher, etc. Faraday’s law, Ohm’s law, Boyle’s law and Dalton’s law are well known examples. Even some engineering units are in the names of scientists: Ohm for resistance, Farad for capacitance, Newton for force, Joule for energy. These are the examples of scientific and engineering eponyms, otherwise in general sense, they are the proper nouns of scientists. Some audio or video albums are known in the name of the actor, singer or some famous song title. Harry Potter, Pogo, Laurel & Hardy, Tarzan, etc. eponyms are very famous. They are just like trademarks.
Some adjectives are derived from the names of the persons, city, state or a country e.g. Indian, American, Gujarati, Gandhian Philosophy, Darwinian, Galvanic, etc. some astronomical objects and stars are known by the names of scientists. The list is very long. Cartoon characters, chemical elements, companies, foods, ideologies, inventions, minerals, theorems, prizes, awards, etc. are based on some names. All these are the examples of eponymy e.g. Spiderman, Bajaj Auto, Mc Donald, Pythagorus theorem, Nobel prize, Bhatnagar award, etc.

VII 2.8 One word substitutes:

One word substitution: In stories, novels and general descriptions, we are fond of writing long sentences to describe some thing. In a text book or during teaching, it may be necessary to explain the exact concept or to define some theory or law or rule. But, in communication it becomes lengthy in some cases. In scientific descriptions also, compact representation is preferable. Nowadays, most of the communication is on internet by emails and on phones by SMS (short message services). If a one full sentence or a long phrase can be represented by a single word, it leads to compact message or description. In case of emails and SMS it helps in reducing typing time, transmission time, memory required and machine time. Some of the one word substitutions are as follows.

- A person involved in making gold ornaments – goldsmith
- A person making or selling jewellery items – jeweler.
- A person making iron utensils and appliances in a village – Blacksmith.
- A person making leather items like shoes. – Cobbler
- A person involved in teaching – Teacher
- A person who leads the people in social activities, or politics or religion or economics - Leader
- A person associated with astrological forecasting – astrologer
- A person associated with astronomical expeditions – astronaut

The above substitutions are based on the profession or activity of a person.

- One who is out to create a terror: terrorist.
- One who has lost his life for the nation – martyr
- Woman whose husband has died – widow.
- A man who is not married - bachelor
- One who is present every where - Omnipresent
- One who does not make mistakes – infallible
- One who works free, without any expectations - Volunteer
- One who loves to donate for the welfare of the others – philanthropist.
- One who looks on the brighter side of the issue – optimist.
- One who thinks to exploit the opportunity for his personal benefit – opportunist.
One who has strange, unpredictable characteristic and behavior – eccentric
A government rule by persons elected by the public - democracy.
A government rule by a king or queen – monarchy.
A government rule by military officers not elected by public – dictatorship.
A place where orphans live – orphanage.
A thing or person or a situation which can not be avoided – inevitable / indispensable.
System of having several wives – polygamy.
The thing or event which is not likely to take place – improbable.
A life history written by a person by himself – autobiography.
People working together in a same office – colleagues
Persons eating food made of only vegetables - vegetarian
Study of body/animals/plants – physiology/zoology/botany.
Killing one’s own self – suicide.
Killing other person – murder.
The thing which has gone out of use or has very old technology – obsolete.
Writing which is not readable – illegible.
One who does not know reading and writing – illiterate
To let go personal interest – sacrifice.
One who loves his/her nation – patriot.
One who worships god – devotee.
The hobby of collecting postal stamps – philately.
One who writes lyrics for the movie – lyricist
One who prepares the plans for the building or interior decoration – Architect
A place where accommodation is available for the students – hostel.
One who plans and manages the day to day activity of an organisation – manager.
One who plans and directs the activities of an institute – Director
A big building housing various departmental stores, variety of catering facilities, videogame facility etc. – Mall
A big building having cinema hall with number of screens and may have other facilities – multiplex.
A new born child – infant
A person who takes care of students in a hostel – warden
Person who runs the plane – pilot
A person who heads and leads the cricket team – captain
A person who constructs a house – mason
A person who carries out and looks after the electrical wiring – electrician

Questions
1. What is the importance of vocabulary?
2. Explain the various points which can help in building vocabulary.
3. How the tenses are helpful in correlating the events with time?
4. Explain general classification of tenses.
5. With the help of illustration explain simple present tense.
6. With the help of illustrations explain continuous present tense.
7. With the help of illustrations explain perfect present tense.
8. With the help of illustrations explain simple past tense.
9. With the help of illustrations explain continuous past tense.
10. With the help of illustrations explain perfect past tense.
11. With the help of illustrations explain simple future tense.
12. With the help of illustrations explain continuous past tense.
13. With the help of illustrations explain perfect past tense.
14. Explain the difference between active and passive voices.
15. Write five sentences in active voice and convert them to passive voice.
16. With the help of active and passive voices explain how the stress in a sentence can be shifted from a subject to an object or vice versa.
17. Explain how awkward sentence construction with indefinite or vague noun as subject can be converted to passive form instead of active form.
18. The theory of relativity was developed by Albert Einstein.
   Change the voice of the above sentence to highlight Albert Einstein.
19. Issac Newton proposed the law of gravity.
   Change the voice of the above sentence to highlight the law of gravity.
20. Some unknown terrorists attacked parliament of India.
   Change the voice of above sentence to highlight parliament of India in news.
21. Implementation of new pay commission is announced by the government.
   Change the voice of the above sentence to give credit to the government.
22. Give one composite sentence, indicating probable condition, using if clause.
23. Joining of these two parties may ensure the winning in election.
   Convert the above sentence to composite sentence, with if clause and combination of present and future tense.
24. Explain with illustration, how if clause is used, for universal truth or law or rule.
25. With the help of illustration, explain improbable condition based if clause.
26. In case of universal truth or rule or law, what tenses are used for cause and effect?
27. In case of improbable conditional sentence, what tenses are used for cause and effect?
28. For a warning message, illustrate a conditional statement, using if clause.
29. Explain conditional sentence with impossible condition.
30. If he was admitted to hospital immediately after accident, he will not die. (correct it)
31. Illustrate if clause for assurance.
32. Book is kept___________ the table. (use proper preposition)
33. Umbrella_________ our head protects us from rain. (use proper preposition)
34. February is __________ January and March. (Use proper preposition)
35. A hawker was resting _________ a tree. (Use proper preposition)
36. Gurgaon is ________ Delhi. (Use proper preposition)
37. He secured first class _____ B.Tech Examination. (Use proper preposition)
38. The cricket stadium of Calcutta is _________ Eden Gardens.
39. Aishwarya Rai is beautiful. Abhishek Bachhan is _________ (Use proper adjective)
40. Rana Pratap was very brave. Queen of Jhansi was also very ___________ (Use proper adjective)
41. I love my motherland. Everybody ________ his mother land. (Use proper verb)
42. This group of students___________ (select is or are) sincere.
43. The committee ___________ (select consist or consists) of ten members.
44. The prime minister, along with finance minister (enter or enters: select) the parliament.
45. The prime minister and finance minister (enter or enters: select) for budget meeting.
46. The party leader, to-gether with his supporters (deserve or deserves: select) the credit for the victory.
47. The director or head of the department (has or have: select) to present the case.
48. The Indian team (deserve or deserves: select) the credit for the world cup.
49. Members of the Indian team (deserve or deserves: select) the credit for the world cup.
50. Mathematics (is, are: select) a tough subject.
51. Some news (spread or spreads: select) like a lightning stroke.
52. Explain the significance of idioms in communication. The idioms are language specific or not?
53. With illustrations, explain the meaning of an idiom “bite of more than one can chew.”
54. With illustration, explain the meaning of an idiom “turn the back.”
55. Explain with illustration, the meaning of “set the ball rolling.”
56. Explain with illustration, the meaning of “beggars have no choice.”
57. Explain with use, the meaning of the idiom: bread and butter.
58. Explain the use of “by leaps and bounds.”
59. Explain the meaning and use of “counting the chickens before hatching the eggs.”
60. Explain the classification of confusables in English language.
61. Define and explain homonyms.
62. Define and explain homographs.
63. Define and explain homophones.
64. Define and explain heteronyms.
65. Define and explain heterophones.
66. Explain what is meant by eponyms? Give some illustrations.
67. Explain how various forms of eponyms are used?
68. Give one word substitution for a person washing and pressing clothes.
69. Give one word substitution for a person, who prepares earthen utensils.

70. Give one word substitution for those, who lost their lives while fighting for the nation.

71. Give one word substitution for the person, who is sent officially to collect the information from the rival country.

72. Give one word substitution for the person, who finds a clue to a legal crime.

73. Give one word substitution for the person, who controls the proceedings of the parliament or legislative assembly.

74. Give one word substitution for unsuccessful military revolt.

75. Give one word substitution for the document, defining rules, regulations, rights, political procedures of a country.

76. Give one word substitution for the person present everywhere.
CHAPTER VIII
WRITTEN COMMUNICATION

VIII.1 Introduction:

There are two forms of communication, an oral communication and a written communication. As a student, as a professor, as an employee, as an employer, as a professional, as a supervisor, as a manager, as head of the department or as head of the institution, you have to deal with a lot of correspondence and written communication, from time to time. Just by learning the alphabets or words, we cannot become master of written communication. The dictionary carries millions of words but, without proper linkage and co-ordination, they do not convey any message. It requires a lot of study, training and practice on various aspects of written communication. In music, the same instruments and tunes can generate noise, if not handled properly. When they are handled properly and in harmony, they generate melodious music, entering through our ears, reaching the mind, touching the heart and awakening the soul. Each language has a specific set of alphabets, used to form the words. Different combinations of different sets of alphabets form different words. These words are linked with each other, using certain rules and regulations of each language.

As a child, we first start speaking. We start with the words and their use, just by observing others, communicating with each other—may be at home, in our family, in streets and outside. When we join school our formal training in writing skill starts. At different stages, we start to learn writing in our mother tongue, which may be our regional language, then Hindi, then English, Sanskrit and other languages as and when necessary. In study of the language, first the alphabets are introduced because, each language is written in a particular script. Then we learn the words, their spellings and meanings. Sometimes, we try to correlate the word by its equivalent in a language already known to us. The better way is to get the concept about the different words by some pictures or models, if the word represents the name of some physical object. If the word represents some adjective, like colour—black, white, green, yellow, dark, bright, they can be demonstrated or we learn by experiencing the property hot, cold, rough, fine, etc. by sense of touching, loud, low by hearing, fast, slow, etc. by demonstration or experience, and good and bad smell by smelling. As we grow and as we learn in a school, we learn large many words, our vocabulary grows. When we learn a language other than the mother tongue, we require special efforts to enrich our vocabulary. Students should read the regional newspaper first and then read English newspaper. Without the help of anybody else, you can understand the meaning. For correlation and understanding if necessary, refer the regional newspaper again. Similarly you can practice by seeing regional, Hindi and English news channels. Once you reach some general level of vocabulary, make it a point to add at least ten new words to your vocabulary every day, with regular habit,
slowly and steadily you can build your vocabulary. The spoken part of English communication, you can develop by hearing and observing others communicating. But, for written communication, it is mandatory to learn the grammar related to that language, otherwise sometimes you make a blunder and you have to pay heavy price for the same.

At any stage, if you have any doubt about the spelling, pronunciation or meaning, the dictionary should be referred. During your career, if you have to undertake extensive writing, the dictionary should be readily available with you. Without any hesitation, refer the dictionary and clarify the doubt. Nowadays, online dictionary is also available. For a script typed on computer, there is a software check for spelling. But, there may be number of similar words with the spellings same or nearer to each other but, different meanings. The author knows what he intends to write but, computer does not know what is there in the mind of the author. So, the author has to apply his own discretion. Starting with student career to our professional career, at every stage, we are concerned with writing in one form or the other. For the same purpose, we may have many optional words but, selection of an appropriate word is very important. Our ability of selecting proper word, decides our style of writing. The best style cannot be developed overnight. It comes by practice and consistent efforts. The fluency of expression does not require only vocabulary. There may be number of arrows in your quiver but, the appropriate arrow should be used, at appropriate time and appropriate occasion. The thinking process should be able to recollect all the possible words and select the most appropriate one. The selection of words should be correlated with the target group of readers. When a script is written for the nontechnical persons or technicians, laymen’s language should be used, other wise, they can not follow. When the target group of readers is professors, professionals and executives, higher level language may be used otherwise, they may feel that they are underestimated. At lower level of readers, you can afford extravagancy of words for clarification and detailing. For higher level readers, the writing should be to the point. Excessive words should not be wasted, repetition should be avoided. Luxury of words is not desirable. Writing is a science plus art. A science can be studied but, an art is either inherited or developed. Individual style of writing is one’s own characteristic. It can be different from the others. Your words may put your foot prints for a long time. Words can work, win worship and wound, also. Selection of sufficient and supporting words is necessary.

VIII.2 Selection of words:

Adaptability: When we have to write some text, we have to consider the background as technical or nontechnical. For nontechnical person, we may stress on application and external working more. For technical persons, we may describe the principle and internal details, using technical terms. For the same subject, textbook written for diploma, graduate and post graduate levels requires different
approaches. For non technical persons, sometimes we have to consider social, economical or educational background. The language to address the people, with different types of groups, may be different. Even age group of the readers is important. Primary school students may be interested in fairy tales. Higher secondary level students may be interested in adventures. College students may be interested in science fiction. Your words, terminology and illustrations should meet with the aspirations of the concerned group. If you try to use the same words and language for all the groups, they may or may not understand it or sometimes misunderstand and misinterpret. We know that many news lines create controversy –the next day, the person has to clarify that I wanted to state like this and not like that. But, by that time, a lot of damage is done.

Clarity: Whatever is written, it should be clearly understood by the other person. Just like computer programming, there should be one to one correspondence between input and output. If I write with one purpose and if you take it the otherway, it creates many complications. In official communication, what ever instructions are to be given, what ever requests are to be made, whatever orders are to be given, whatever action is to be taken, should be clear from the written communication. Ambiguity in communication may create confusion on implementation side. Some controlling officers are indecisive, they are not bold. When some decision is to be taken, or when some action is to be suggested for some employee to the higher officer, they put the remark, which is not clear to the higher officer. The communication should be self explanatory. It should not require an interpreter to interpret the same. If the communicator is to be called for the clarification, it is wastage of time on both the sides.

Effectiveness: In an official or a commercial or a technical communication, effectiveness of communication is necessary. The official communication should be such that in one round the other side should know the expectation or objective of the communicator. In case of an ambiguity, the other side asks for clarification or more details. The letter or application is again referred back to the applicant. In government offices, this excuse provides a justification for the delay in decision making.

Economy: A poet or an author can afford the luxury of words. They are extravagant in describing the things. To praise the beauty of a lady, they can write paragraphs over paragraphs and pages over pages. The purpose in literature is different. The poets and authors give shape to their imagination. The readers may learn, enjoy and entertain themselves. But, in technical writing, this type of luxury may lead to wastage of time on both the sides. In official communication, you have to state the purpose of communication and mention just the necessary details. Nobody may be interested in reading your essays. If the letter or communication is very lengthy, it may go to a waste paper basket. The
communication should be short, sweet and to the point. Nowadays, in email and SMS, we follow this approach. It saves transmission time, memory space, if printed, saves stationery, reading time, draws attention and results in immediate attention and action. One disadvantage is that, in the name of economy, we sacrifice spelling, grammar and true English.

**Preciseness:** The words should be necessary, sufficient and appropriate. Particularly, in technical communication and in technical description, it is very much essential. In some books, if we read a page or pages and try to summarise the effective content is hardly one or two lines. It is just like Hindi TV serials, whose story does not proceed even by one line, in an half an hour episode. Against this, there are some technical books by renowned authors. If you have to prepare the lecture notes or summary of any topic from such book, it is difficult to replace the paragraph by few lines in your language. Technical teachers should really read such books. Students can use simpler books.

**Some guidelines:** In general communication simple, short, familiar words should be used. Depending upon the level of audience, some complexity of words is accepted. Otherwise, they may feel that they are underestimated. If the audience needs, you should be able to talk, down to earth. The purpose of writing is not to impress the readers by your vocabulary or knowledge but, to explain or convey the things, as they can understand, accept and appreciate. Concrete and specific words should be used to avoid ambiguity. Unless introduced earlier, use of abbreviations should be avoided. Some words or phrases called cliches are frequently used and have become just like political slogans, should be avoided. Jargon should also be avoided, if possible. If it involves branch specific terms for engineers, doctors, pharmacists, programmers, etc., which others may not be able to follow, should be avoided. Some people are fond of mixing the words of other languages, which is not desirable. In a classroom teaching, we may explain the same principle in number of ways. In a dictionary for the same meaning, there may be number of words. For the teaching, explanation and understanding, this redundancy or duplication is necessary but, in communication it should be avoided. Some people have a bad habit of using redundant words in a pair e.g. return back, resume again, tight fit, future plan and assemble together. Some people instead of describing the things directly write in circumlory or round about mode. It does not give desired concept. Efficient writer should convey the maximum information in the minimum time, with the minimum words. Usually in oral or written communication, we use words he, his, him, etc. The author may be innocent but, this way of communication may displease the ladies. A careful writer may avoid this type of discrimination. Every where, it is not convenient to write he/she, him/her, his/her. It is desirable to avoid both the conditions. Some of the words, like chairman, manpower, etc. should be replaced by chairperson, workers, etc. Reference to certain cast or community may also, create controversy. Even terms
like blind, ugly, poor, backward may create frustration. If possible, indirect reference should be used.

VIII.3 Sentence: In a written communication, the first step is to select the proper, necessary and sufficient words. Only words and phrases have no significance. We require proper combination of words to form sentence. Oral and written communication is through series of sentences. Just like selection of words, formation and selection of sentence is equally important. It should take care about the educational, social, economical, political, professional background, understanding and familiarity of the targeted readers with the topic or subject. The sentences should not be too long. They can be broken in to small sentences with simple words and simple language. Long sentences require number of commas, colons, semicolons, inverted commas, etc. If they are not used properly, the sentence may not convey the desired meaning. It is possible that it may be misunderstood. In general written communication like newspaper, book, novel, biography, autobiography, etc. the language of the sentences should be targeted at the common mass of readers. They should be able to understand easily. It should not burden their minds. Engineering college textbooks are meant for diploma, degree or post graduate level students. In this case also, the language of the sentences should be made simple considering the average level of students. The brighter students may refer the advance level books but, the average students should get the technical material, which may be self explanatory. They should be able to study it themselves, without the support of anybody else.

Sentence Construction Guide Lines:
Shortness: It is simple for a writer to write short sentences. As soon as the short sentence is over, it directly goes into the mind of the reader. The reader understands and easily remembers it. When a sentence runs for three four lines, the reader has to read and then think, what the author wants to convey. If he understands, the information is stored in the mind.

According to the structure the sentence may be simple, compound or complex. In written communication depending upon the requirement, any type of sentence can be used. Proper combination of long, short, simple, compound and complex sentences can help in creating and maintaining reader interest. In an abstract, a conclusion, and listing it is difficult to avoid long sentences. If the average number of words per sentence is five to ten, it is easy to read. In case of 11 to 15 words per sentence, it is difficult to read, with 16 to 20 words per sentence, it is very difficult to read. In technical writing, the middle range is usual.

Break Points: Verbal communication has the support of body language, gestures, facial expressions, pauses and visual aids. Written communication relies solely on words and punctuation marks. They help in breaking the same. Different
punctuation marks at different positions, create different meaning of the sentence. So, it is necessary to understand and use the punctuation marks properly.

Optimization of words: Proper selection of words is useful in compressing the sentences. Without sacrificing the information, it saves readers time and enhances interest. The clustering phrases should be substituted by single words, whenever possible e.g. “may” for “there is a chance that”, “must” for “it is important that”, “when” for “under the circumstances in which”, etc. Get rid of redundant phrases like “I am of the opinion,” “in the period, between Holi and Diwali,” etc. Instead of round about, direct expression should be used e.g. instead of “is aware of” “has knowledge of”, use knows. Avoid redundancy. For “assemble together” “assemble” for “limited in size” “small” may be sufficient. Changing the sequence of words in a sentence can change the emphasis and eliminates ambiguity. Instead of passive voice active voice, may result in economy of words.

VIII.4 Paragraph Development:
VIII.4.1 Introduction: Words form sentences and sentences form paragraph. In any written communication or description, it is not customary to write continuously for number of pages. The description is usually divided into number of segments called paragraphs. There is not a fixed rule but, generally a page is divided into three to four paragraphs. There are number of lines and sentences in a paragraph. These sentences in a paragraph may have some common feature. The starting paragraph gives smooth start by the introduction of the topic. The successive paragraphs give necessary description about the topic. The last paragraph concludes the description before termination. If the description consists of properly sequenced, well designed set of paragraphs, the reader enjoys the writing. It develops the concept gradually and the reader is able to understand the content easily. Technical personnel are concerned with technical reports, technical proposals, technical manual, operating manual, technical papers, text books, laboratory write-ups, reference books, etc. This type of material describes a product, a process, a procedure, a practical, a plan, a project, or a proposal. The purpose, application and targeted readers should be considered in developing the paragraph. It may be for technical, commercial, social, teaching, printing, publication or presentation purpose. The approach may be different in all these cases. The center point of all the paragraphs is the core theme, which is to be explained to the readers. It requires continuity, consistency and correlation among the paragraphs. It is aimed at finally convincing the reader logically.

Human body is made up of various organs and organs are made up of cells. Proper arrangement of cells, forms well being of organs. Co-ordinated working of organs, decides the health of the body. The paragraphs are the integral organs of the body of the script. Once the topic is decided, the author should think of all the information relevant to the objective of writing, its readers and application. There
may be number of ideas, related to the topic in general writing. The relevant ones should be identified. In technical writing also, there may be abundance of information. From this, the necessary information should be sorted out. The priority and significance should be decided. It will help in deciding titles, subtitles, number of paragraphs, overall size and organisation of the write up. In technical papers for conferences and technical journals, the size of the paper is specified in terms of maximum number of words or number of pages. These points will help in deciding the general structure of the paper or write-up, weightage to be given to each sub component and scope of detailing in each case.

Before writing anything, some brain storming is necessary. As the name indicates, you will get wind storm of ideas from all the directions. Unless you align them, the resultant outcome may be zero. The ideas may come and go, as they are volatile. You have to convert the soft copy of your ideas, into the hard copy of the write-up. Professional writers can get natural flow of ideas and they can directly put them on paper. For beginners and even for experienced people, some action plan should be considered first. While planning a journey, we consider the destination, distance and direction first. Just like direction and path indicators, identify the main points, put them on paper. Alternative ideas, solutions, procedures and approaches should be noted down. Prepare the detailed plan, just like a map, with all the mile stones. Finally, like itinerary of the planned trip, workout the detailed flow chart of your write-up, considering all the necessary steps involved.

VIII.4.2 Sentences in a Paragraph: A paragraph consists of number of sentences. Mainly, there are two types of sentences. One is called a topic sentence and the other type is called supporting sentences. When a paragraph starts, it is aimed at describing some subtopic of the main topic. It may not be possible to give large many subtitles in the formal way. But, the starting sentence of the paragraph centers over the idea, which is to be conveyed in that paragraph. So, this first sentence of the paragraph is called a topic sentence. In some paragraphs, after stating the subtheme by topic sentence, successive sentences are used to elaborate the idea. These sentences are called supporting sentences. These sentences may give detailed explanation of the idea. Sometimes, the description may be detailed procedure of experiment or description of electrical, mechanical, thermal, chemical, hydraulic, pneumatic, chemical or physiological process. Detailed steps of design procedure can also be covered here. When the topic statement is in the beginning of the paragraph followed by supporting sentences, the organizing mode of the paragraph is called deductive approach. In inductively organized paragraph approach, the supporting statements are in the earlier part of the paragraph and the termination of the paragraph is by the topic statement, just like concluding remark. In expository approach, the topic statement may be anywhere in the paragraph, not necessarily at the beginning or at the end. At times, the main
theme may not be started by separate statement. It may be hidden. But, the whole paragraph conveys the idea. This mode is not commonly used. Irrelevant points are avoided in the paragraphs.

VIII.4.3.1 **Attributes of a Good Paragraph:** A well designed paragraph may have following features: topic sentence, supporting sentences, coherence, unity, adequate development and proper size.

**Topic Sentence:** A book starts with a preface, where the author states the objective of writing a book. A paragraph is a miniature edition. Here the author defines the theme of the paragraph, which is expressed using some key words. The topic sentence may be in the beginning, at the end or in between the paragraph. The idea is elaborated in the paragraph with unity, coherence and adequate development. A paragraph may have topic sentence like "multimedia has brought revolution in presentation". Here, the reader is ensured to learn about various facilities based on multimedia tools for presentation.

If the topic sentence is “Teacher is a role model for the students”, the reader can expect to learn about good qualities of a teacher, which would inspire the student to acquire the same and become a good person.

**Supporting Sentences -** The idea stated by a topic sentence is elaborated by supporting sentences.

**Coherence:** A paragraph is not just a collection of random, assorted points. It is aimed at conveying some idea. The idea should be presented gradually. It should provide an upward staircase on which the reader will climb the successive steps, one by one. The steps are arranged in a particular fashion, leading upward. The sentences in a paragraph are the logical steps to convince about the theme. There should be continuity and consistency in these steps. As a good road, through various milestones, leads to the destination, the sentences should meet the requirement of successive steps converging to the central theme. The discussion should proceed smoothly. Frequent diversions or patches are not desirable. The sentences, which satisfy above requirements, further require linking elements in the paragraph. The linking may be provided by use of pronouns, frequent reference to keywords and phrases, transitional words and parallelism. The coherence can also be achieved by the proper sequencing of the thoughts and points. One option is to arrange them in a chronological order. They can be arranged as per the sequence of occurrence, first come first served. Different events have different properties. They can be arranged in a descending priority. Description about the country may start with the geographical locations from North to South or East to West or alphabetic order of various states. While describing the machinery, like electrical motor or generator, we may start either from outer most part towards inner most
part or left most part to right most part. Sometimes, larger parts are dealt with first, then smaller part and then accessories. Sometimes, logical sequence of cause and effect is followed. As the quality of the cloth is indicated by well woven texture and woolen items by systematic knitting, the paragraph should have uniformity of texture and should reflect skillful knitting.

Use of Pronouns: When a particular object or an equipment or a person is being described, everywhere the name of the object is not repeated again and again. If a student describes the construction and working of an electric motor, first time he may refer to it as electric motor. Later on electric motor is referred by pronouns e.g. It is..., It has..., It does not..., etc. While writing about the prime minister, an actor or an actress or a professor, after first reference, the pronouns like he, she, his, her, him, are used. The use of pronoun indicates that the author is writing about the same object, equipment, person or group. Without mentioning about the object or equipment or person name, if the reference starts by pronoun from the first line, it is ambiguous. The reader does not know which object, equipment or person is referred. It should be avoided.

Keywords and phrases: On one side, we advocate that a good writing should avoid repetition of words and phrases. Redundant words and repetition waste space, stationery and time. But, at times, it is inevitable or desirable. Repetition of the keywords and key phrases reminds the reader, what he is reading about. The central idea should strike again and again his mind. After one cycle of magnetization due to the property of hysteresis, the magnetic material has some retention of residual flux. Repeated charging of idea in the mind of the reader will finally convince him about it. If an author is explaining electricity by twenty five sentences, the use of word twenty five times may be monotonous and irritating. But, if the word electricity is referred three to four times in a paragraph, it may glow like a spark and remind the readers that electricity is being explained. A good orator or a good writer may use some phrases repeatedly in a sentence in different references, to create dramatic or poetic effect.

"I am not fond of advising anybody but, as a member of an advisory committee, I am entrusted to advise you, on what is advisable and what is not advisable ..."

Transitional words: Usually an author, a scientist, a professional or a researcher may be writing with, a lot of experience, experimentation, study or research. He may be well convinced about his ideas or hypothesis but, when he is writing, he has to understand that he writes to brief or convince or explain others. Readers may be interested, not only in the truth or theory presented by you but, also the approach to reach it. You have not to gallop through your ideas but, you have to lead your readers from the hypothesis to the conclusion. Chain of your thoughts, ideas and points, can be made by using good connecting words. These connecting
words, ensure smooth transition from one sentence to the other. Reading and understanding improves by this process.

The simplest form of transitional words is presented by conjunctions like and, or, nor, but, yet, etc. However, moreover, never the less, on the other hand, etc. are transitional expressions. Conjunctions may be used between two sentences to join them and form a compound or a complex sentence. Sometimes the earlier sentence is completed with a full stop and a new sentence starts with “and” or “but”. This arrangement may be useful in stressing the point. It should not be a general practice but, it brings a good change from monotonous write up.

Different transitional words are used to serve different purposes. And, moreover, again, secondly, next, even more important, etc. transitional words give additive effect. Or, nor, etc. give optional effect. While, when, during, soon, later on, never, simultaneously, etc. transitional words are used to indicate time frame. Some events take place one after the other, some take place in parallel or simultaneously, some take place frequently, some do not take place. These eventualities are indicated here. Similarity of events or ideas is displayed by transitional words like similarly, in the same way, likewise, etc. Contrast of happenings or ideas is given by in contrast, but, not withstanding, never the less, etc. Illustrations are given using the words for example, for instance, such as, etc. Reference to place is given by here, there, nowhere, beyond, neighboring, etc. Reasons are given using because, on account of, due to, etc. Resultant event is indicated with therefore, consequently, so, etc. Objective is stated by thus, accordingly, in order to, etc. To summarise, the phrases like to sum up, in short, coming to an end, etc. are useful. In concluding remarks to conclude, finally, as discussed by me, it is obvious that, etc. phrases are helpful. To stress the point phrases like indeed, undoubtedly, without fail, etc. are used. While clarifying the point, phrases like in other words, that is to say, to explain, etc. may be useful. Relative position is specified by above, below, beside, to the right, etc. Sequence of events and ideas is indicated using first, second, at first, next, finally, etc. Emphasis is laid, using important to realize, noteworthy, surprisingly to point out, etc. With good habit of writing, the flow of transitional words will be natural. Without them your paragraph is nothing but, patches. Intentionally if you try to introduce transitional phrases, the desired effect may not be there.

Parallelism: The coherence is also achieved by using parallel grammatical structure. Parallelism is considered as a powerful tool in written communication to attain coherence. Consider the following illustration.

To clear the course, the student has to pass in term assignment (TA) competent, he has to pass in mid semester examination (MSE), he has to pass in laboratory and practical work, and finally he has to pass the semester end examination. (SEE)
It can be arranged in parallel mode as follows:

To clear the course, the student has to pass the following component examinations: Term/assignment, mid semester, LPW and semester end. It makes the statement compact, without losing clarity.

**Unity:** Unity is another important attribute of a paragraph. Effectiveness of message in a paragraph is ensured, if unity is maintained in whole of the paragraph. The concentration should be made on central theme point. There should be continuity and consistency in the presentation. The paragraph should not divert from one point to the other, break points should be avoided, repetitions and redundancy should be avoided. When there is a deviation in a point or idea, separate paragraph should be used. With unity of paragraph, the thought process of the writer and reader can be aligned. They move in the same direction. It is necessary to stick to the theme of the topic sentence otherwise, the reader may be confused.

**Adequate Development:** Topic sentence is just like road map of the paragraph. By just reading it, the reader is interested in reading the whole paragraph. He has the curiosity to gain something. At the end of the paragraph, the expectations of the reader should be fulfilled. His thirst should be quenched. The necessary content, promised in the beginning, should be developed adequately. It should not be left incomplete. It necessitates proper description, associated explanation and support of proper arguments and illustrations as applicable. Whatever points are raised should be dealt with thoroughly. The paragraph is made up of sufficient lines to provide necessary details, some lines devoted to clarify the concept, some lines to elaborate, with illustrations if applicable.

**Length of a paragraph:** There is no fixed rule about the length of the paragraph. Depending on the purpose of writing and its use, the length of a paragraph may change. In newspapers, magazines, novels, storybook, textbooks, technical reports and official correspondence, there are different styles of framing a paragraph. A paragraph may consist of one line to many many lines. Sometimes, we are guided by the appearance of the paragraph. If the paragraph occupies a whole page it appears to be overstuffed. The reader may be discouraged to read it. If the paragraphs have too much variation in length it looks bad. Generally we try to arrange, almost equal length of paragraphs, with some variation on either side. But, actual length of the paragraph is decided by the objective. If it is successful in stating and explaining the point in one line, the paragraph may have only one line. Where it requires more lines to state and explain the theme, it may be stretched to many more lines. So, deciding factor is not the physical size but, how it is successful in explaining the idea with unity. Experience and experiments suggest paragraphs size of about ten lines. For this purpose, they should not be sliced
mechanically. If there are points within a point, they can be covered under small paragraphs with unity. In technical papers and technical textbooks usually we divide the explanation or presentation in number of units I, II, III, IV, V as per the subtitles of the main topic. Under subtitle I again, the details may be covered under I.1, I.2, I.3, etc. Sometimes, if further detailing is necessary, it may be covered under final units like I.1.1, I.1.2, I.1.3 and I.2.1, I.2.2, I.2.3 etc. The third digit may indicate the actual paragraph or units of one or two small paragraphs. Actual unity is maintained by these units.

VIII.4.3.2 Development of a Paragraph: There are various steps in developing a paragraph: statement of controlling idea, explanation of the controlling idea, illustration, explanation and termination.

Statement of Controlling Idea: Each paragraph aims at conveying some information or idea, one or more sentences are used for the statement of controlling idea. It may appear in the beginning, at the end, or in between the paragraph. Sometimes, the statement sentence may not be identifiable separately. The idea is stated indirectly. But, the paragraph centers over a key point.

Explanation: After stating the idea, the writer tries to elaborate it. It reflects the experience, expertise and art of presentation of the writer. The writer logically explains and convinces the reader. His success is his strength. In examination, different students explain the same thing. Those who are successful in logical explanation get good marks, others may get less marks or fail.

Illustration: We learn and remember by inference. A good teacher gives number of illustrations, during the teaching process. A writer also, first explains the idea in general, and for better understanding, adds many illustrations. The illustration explains the idea in cause and effect form and makes it more authentic. It is just like support of experimental work for the validation of a theory.

Termination: As discussed so far, the paragraph contained statement of the idea, the idea or point or process was explained. If necessary or applicable some illustration was given and effort was made to clarify the point. Before completing the paragraph, some closing remark may be made about the point covered. Paragraphs are not assorted pieces of random writing. There is a good correlation and linking of sentences among the paragraph. At the end of a paragraph some point may be mentioned, which may generate the central idea for the next paragraph. This is a good style of writing. End of a paragraph is a starting point for the next paragraph.

Central Idea Development: Development of central idea is the heart of the paragraph. The main objective of writing the paragraph should be fulfilled here. There are various approaches for this purpose. Some writers rely on the
illustrations. Some similar example may be given. The correlation between the two events or systems or objects or persons or groups is established. One of them may be very familiar or apparent. Using the correlation, similar logic is applied to the second one. The other approach is to compare the two objects, events, persons, or groups. This process is helpful in highlighting the plus and minus points, advantages and disadvantages. It exposes the idea, object, event or persons from different angles. It will help in acceptance or rejection of the idea. In science and engineering, we do not accept any statement as it is. We follow the cause and effect approach. Some experiment or experience is mentioned. Under certain condition the behavior of an object, machine or a person is like this. Effort is made to generalize that with some cause or condition, the effect or outcome should be same or similar. Another approach is based on classifying the main idea into different categories and elaborating them. In management, case studies are considered. Here, the paragraph starts with pausing the problem and as it proceeds, it discusses the alternative solutions to the problem.

These are the different techniques for paragraph development. Some or all of them may be employed depending on writer, reader, topic, objective and subject. Within the paragraph, the sentences may have small ideas cohered together, with some linkage to unite them. The complete discussion about a topic has paragraphs coupled together. Finally it describes some person, process, practical, people, or policy. If the different attributes of a paragraph are taken care, if the development of paragraphs is proper and the treatment of the topics and subject is effective, the readers would love to read it, it would enrich them, otherwise the material would be lying on the bookshelf and finally add to the waste paper.

Questions
1. What are the different forms of written communication?
2. Why written communication is given more importance in some cases?
3. In written communication, why only words or vocabulary is not sufficient?
4. What is the importance of grammar in written communication?
5. How spell check on computer is helpful and what is its limitation?
6. Explain the various factors affecting the selection of words.
7. How sentence is formed from the words?
8. Explain the guidelines for construction of sentences?
9. How a paragraph is developed?
10. What are the different types of sentences used in a paragraph?
11. Discuss the attributes of a good paragraph.
12. Explain the use of keywords and phrases in a paragraph development.
13. How transitional words are useful in paragraph writing?
14. Explain unity and parallelism with respect to paragraph.
15. Discuss about length of a paragraph.
16. What are the various steps in the development of a paragraph?
17. How statement of controlling idea, explanation, illustration, central idea development and termination help in development of a good paragraph?
18. Explain in detail, development of central idea for a paragraph.
CHAPTER IX
EFFECTIVE PRESENTATION STRATEGIES

IX.1 Introduction:

Presentation is important, in all walks of life, at all stages. What you know, or what you are, is not important but, what others know about you, is more important. When I say “you”, you may be an individual or an organisation or an industry. There is a proverb that without speaking, you can not sell your berries. Selling does not mean only commercial deal, it is convincing the other side, about your product or idea or hypothesis. From the school days, emphasis is laid on presentation skills. Depending on a place, the time and the purpose, you can utilize your presentation skills in the most effective way, which forms your presentation strategy. Sometimes, looking to your rivals or competitors you have to change your strategy.

In the engineering colleges, as students, you have to face many examinations and interviews. Without practicals or laboratory work, engineering education is incomplete. You perform and present the report of the laboratory work. It is your written presentation. In examination, in oral form, you have to present your knowledge about the practicals. The laboratory work is for the validation of the theory work, studied by you. If you can present your understanding during oral examination, it proves that you have understood the theory and practical implications. As you proceed to the higher semesters, seminars are part of the curriculum. The students are given various topics, and they are required to prepare and present the seminar. A seminar report involves your written presentation, and delivery of the seminars, involves oral presentation. There are also minor and major projects. These projects may involve some theoretical survey, design and fabrication and some software development. Here also, written reports, demonstration and presentation are necessary. M.Tech and Ph.D. dissertations require a lot of literature survey, analysis, modeling, simulation, design, fabrication and software development. The examination is again, based on the written presentation and oral presentation. Students, researchers, academicians and professionals are also, required to present technical papers at state level, national level or international level conference or symposium. The professors utilize different presentation forms in the teaching learning process. Expert lectures and popular talks arranged in the colleges use various forms of presentations. When different suppliers of equipments, hardware and software come to the colleges, they arrange presentations. When national and multinational companies come to the engineering colleges or business school for placement, they arrange pre-placement presentations, to brief the students about their company, their product, their activities, future plans and man power requirement. For affiliation to the university, for approval of university grants commission, for initial approval of the
courses and later on, for renewal of approval by All India Council of Technical Education, (AICTE) and during assessment of programmes by National Board of Accreditation (NBA or NAAC), the head of the department in the institute or principal/director of the institute has to arrange presentations for the committee members. For the fee structure, the institute has to convince the state level fee committee formed by the stage government.

When faculty members are recruited for the teaching position, in many cases trial lecture presentation is arranged. When a faculty member or a research scholar requires project grant from the government or private funding agency, he has to convince the committee members about the viability, scope of research, and social implications. Within the organisation also, budget requirements are to be defended by presentation. When a company has to take some major financial decision, the share holders and board of directors are to be convinced by proper presentation. Within the company, when there is a major change in policy or working, the managing director has to take his workers, supervisors, engineers into confidence by presentation and interaction. When a pharmaceutical company develops some new medicine, by presentations at various levels, it has to convince the government authority, doctors and public. When a big company develops some new product or some latest model of a car or a scooter, a refrigerator, a washing machine, a TV or home theatre or some software is developed by a software company, a presentation is necessary to create the awareness about the product and its merits. During election, various parties and their candidates have to make presentations about their manifesto, achievements, ideology and future plans. In case of some special achievement like “moon mission”, organisation like SAC/ISRO has to make public presentations. During some calamities, disasters or some major event like terrorist attack, the ministers and government have to arrange presentations regarding the stand and action taken and government policy. In annual general body meeting of all the organisations, activity and financial reports are to be presented and approved. In many organizations, there is a tradition of periodic review of the activities and progress with respect to the financial or activity targets. Here, a section head or a group leader has to present the work done, the problems faced, the action taken and the further line of action. These review presentations may be monthly or quarterly. It will help in solving the problems of maintenance, raw material, procurement of equipment, import, export, marketing, man power deficit, recruitment, training of man power, change of strategy, etc.

IX.2 Defining the purpose: It is stressed earlier that presentation is necessary in many cases. Purpose of the presentation can be achieved by proper presentation strategy. The presentation may be prepared by internal experts or nowadays, help of external experts is also available in deciding the presentation strategy and preparing presentation. The presentation is aimed at a specific objective. Nature of presentation and associated strategy is dependent on the purpose. At first it is
necessary to well define the purpose and explain it properly to the person, who prepares the presentation.

As a student in a technical institute, you are concerned with academic purpose. Students are required to present laboratory work, technical seminars, a technical paper, a minor project, an M.Tech or a Ph.D thesis. The faculty, the heads of the departments, the directors/ principals are concerned with presentations for the purpose of recognition of programmes/ institute or an affiliation of programmes or an accreditation of programmes/ institute, the sanction of grant or budget by authorities of university, state and central government, recognizing and accrediting authorities, private and government funding agencies. The organisations are concerned with presentations related to a product, a policy and activities to stake holders. Some presentations are for marketing purpose. Some presentations are for publicity of achievement. Some presentations are just for face saving, to announce or clarify the policy, to avoid panic in the public, to brief about the actions taken by the organisation or the government. Some presentations are part of a routine procedure e.g. a general body meeting, a budget meeting, an annual activity report, a periodic review, or a part of teaching learning activity.

So, it is necessary to define the purpose of the presentation, and a person or an agency preparing the presentation should meet the specified requirement.

IX.3 Analysis of Audience and Location: The general scope of the presentations is discussed in the beginning. It is also, stressed that the presentation is purpose specific. A presentation is one form of mass communication. Usually in a presentation, one person communicates with large many persons. The communication is initiated by the presenter and it is received by the audience or viewers. For any presentation, it is necessary to know the target group in addition to the purpose. The audience may be students, professors, professionals, colleagues in the office, clients, members of board of directors, new recruitees, share holders, common public, devotees, delegates at the conference, selectors, panel of experts from government, university or any other body for affiliation or approval continuation of sanction of a project or grant. The group may be familiar or unfamiliar to the presenter; it may be homogenous or non homogenous group. The members may be educated, uneducated, may be having different social, economical, educational and political background. The presentation will be well received, if the audience or the viewers are interested in the presentation. Sometimes, we arrange common expert lecture for students of various branches of engineering. The expert may have bias for his branch of engineering, if he is also an engineer. His focus may be on one branch of engineering. The presentation may not be appreciated by the students of other branches. It means proper background of the audience is necessary otherwise it is difficult to develop and
maintain audience interest. Sometimes, we mix up students of different semesters for the lecture. At times, our auditorium has a larger capacity and to please the speaker and to prove the success of the event, we fill the hall with students of different semesters. If the topic is of higher level, the higher semester students can appreciate it but, the students of lower semester can not appreciate it because, they are not able to understand it. Thus, level of the audience is necessary. It is possible that the students do not understand the lecture but, if they are well disciplined, they may put their sincere efforts to listen and follow the lecture. So, sincerity and discipline of the audience is important. Some teachers are considered to be very good teachers. They can handle their subjects most effectively. But, if the same teacher talks about some other topic or tries to clear fundamentals, he may not be well received by the students. They are examination oriented. They do not understand the importance of the fundamentals or any other topic being discussed. They will realize the need of fundamentals, when they approach final year and face such questions in the campus interviews. It means, interest of the audience is also important.

We have observed that even in case of a student audience, number of factors like background, level, interest, discipline and sincerity are important for the success of the presentation. These factors may be applicable to other types of audience, also. So, it is necessary to understand your audience first, so that they can understand you. When one has to go for some presentation, to unknown place and unknown audience, it is advisable to get directly or indirectly, some idea about the nature of the audience. It will help you in identifying their need and expectations. You can prepare your presentation accordingly. Professionals, marketing personnel, political, social and religious leaders have to address the different communities with different social, economic, cultural background and familiarity of the language. In the same country, there is a lot of variation of language. At international level, English is considered to be the most common language for communication. India and China are the fast growing economies of the world. Due to British rule in the past, India had the advantage of spread of English as the common language. Initially China faced the problem, due to less number of English knowing persons but, gradually it is overcoming this problem. Moreover, same English language spoken over various parts of India and world has a lot of variation in accent. The words may be the same but, due to regional effect, the pronunciations differ a lot and create some problem for the understanding. Again, communication is not only verbal communication, expressed by words but, it is supported by non verbal communication in the form of body language and gestures. The signs and codes expressed by lips, face, eyes, fingers, hands, legs and their typical movements are not common or standardized, all over the world. Sometimes, they convey totally different meaning in the different parts of the world. It may create ambiguity, confusion and misunderstanding in some cases.
It is necessary to consider some social and religious beliefs, also. We may call it blind faith but, it is difficult to talk against it. In this reference, there may be some critical issues like a child marriage, a widow marriage, family planning, change of religion, corruption, etc. If you have to talk about any of them, you have to handle the topic and audience trickily. Some presentations and their response is gender specific or age specific. Nowadays, due to health consciousness, practice of Yoga has become very popular. I have seen a Yoga Guru talking to the school children, the adults, professionals, members of medical council, members of Indian Institute of Management, rural ladies group, yoga trainers, engineers and politicians, too. I have observed that he can mould his presentation for the varied groups of audience. We have to also, consider the temperament of the audience. When the students are on an agitation for some issue, they may not be in a mood to hear their best and beloved teacher. When the workers are on a strike and are under the control of the political labor union leaders, the workers may not respect and hear their managing director. So, mood of the audience is another deciding factor. To tackle the mood or temperament of the audience, you require special preparation in your presentation. In some of the institutes, where the monitoring is not strict and discipline is loose, sometimes students have no mood strike. They decide, when to study and when not to study. If your audience is well prepared, there may be question answers and frequent interactions. You can anticipate the questions and queries. You can be well prepared for the same in your presentation. Some smart, intelligent presenters foresee such questions and queries and their presentation is so perfect that all the queries in the minds of the audience are complied without asking. Even if, questions are asked, such presenter will not lose his stability. He is encouraged and motivated, feeling that the audience follows whatever he expresses.

In official presentations the audience may be familiar. The presentation may be part of a routine procedure. The general points of presentation may be known to the audience, it may be mentally prepared for the same. The presenter also, is familiar with the likes, dislikes, background and level of the audience. If official presentation is by a senior officer, by position he enjoys some respect and discipline during the presentation. When some committee or delegation comes, the requirements and expectations by the visiting team may be well defined. The institute has to prove its capability and strength, present good practices, achievements, plans and better edge over others. For such presentation, head of the institution or some tested senior person may be assigned the responsibility of presentation. A budget meeting or an annual general body meeting is also, with fixed agenda. The presentation is in the information form. It mainly carries facts and figures. The audience is briefed about the expenses, income, profit, dividend, and tax liability in the budget meeting. In the annual report the activities during the year, the targets achieved, the success and failure, limitations, effect of
external factors, government policy shift, etc. may be highlighted and future activity and expansion plans may be presented.

Certain presentations like M.Tech and Ph.D. defence may be part of the examination and assessment purpose. The audience may be very small. It may include your guide, some internal and external examiners. The examiners are usually expert in the subject area. The presentation is purely technical. It should be specific and to the point. The candidate, as a presenter has to impress upon the members, the importance of the work done, the objective, the hardware and software involved, new ideas developed and the application. He should be ready to face a series of questions and queries. Most of them, he should anticipate and be prepared for the same. Sometimes, the panel consists of experts of different specialities. It requires special efforts to convince the exports of other areas. Some questions may be irritating, just to test the mental stability and dynamic response of the candidate. Such questions should be faced politely. If you do not know or if it is beyond the scope of your work, confess and clarify it. Do not bluff. In the presentation, do not make over ambitious or exaggerated claims about your work. All researchers can not be Newton or Einstein. The presentation should be systematic, well organized and have a proper sequence, supported by diagrams, photographs, observation tables, graphs etc. Some part, like review work may be covered in a fast forward mode and your contribution or work should be covered in detail. For such presentation, if half an hour is specified, many candidates waste time in introduction and review work. Before they reach the main work, the time is almost over. They have to rush through the most important part of the work. They fail to convince the panel, about the quality work done by them and as a result they suffer on assessment side. Similarly in technical conferences, the audience may be a mixed group. The time allotted for the paper presentation may also vary. Initially, 30 minutes may be specified, during the actual session it may be reduced to 20 minutes, when session starts and when your turn comes, it may be reduced to 10 to 15 minutes. You require dynamic planning. Technical paper presentation is not reading of the paper. For printing in the proceeding, the arrangement of the paper may be detailed one. But, actual presentation material may be in the form of slides, highlighting various aspects of the paper. Here also, some part you have to run through in a fast forward mode. Devote more time to your experimental or analytical work or software developed. Details may be reserved for the question answer session as and when asked. Before the warning signal complete your main presentation and after warning signal conclude. In this type of presentation the content, time management, sequence and priority requires due considerations.

Another category of presentations is for marketing purpose. The marketing may be for an idea, software, a product, consumer goods, food products, a medicine, a proposal, a property, a movie, a TV serial, a policy, etc. The audience may be clients, consumers, medical representatives, doctors, engineers or experts in the
field, distributors, salesmen, sales and service engineers, viewers, media persons and a common public, in some cases. Depending on the product or item to be sold, the target group may be different and strategy may be different.

Some presentations are for educating people and some are for entertainment purpose. On TV channels, we see a lot of programmes. Some of them are targeted at small children, some for school going students, some for youngsters, some for ladies, some for the intellectuals and some for those who want to kill time. Looking to the target group, they mix up entertaining features along with the facts, figures, events, stories, etc. There is a fierce competition of making one channel or one programme more popular than the other. Depending on the age group, sex, educational background and interest of the audience, they introduce many entertaining features. Some of them are successful, in making addiction of their programs, among mentally weak people. In the race of completion, they sometimes forget what is good and what is bad. Sometimes the facts are distorted, vulgarity is added up, in the name of reality show, some unreal things may be shown, which may damage the young, unmatured minds.

Locale, locality, location and venue of your presentation are also important. They decide the size and quality of the audience. The technical event may be a national or an international conference, arranged under the aegis of IEEE, ISA, ISTE or some professional body of national or international repute. It may be arranged at some good institute, geographically well placed in a big city. Apart from technical significance of the event, due to attraction of sight seeing, it attracts good quality and quantity of audience. The resources for such organizers are also in abundance and it becomes a mega event. In some cases, it becomes a state level or a local level event. It may be arranged by the state section or local chapter of that professional body. In this case, the audience may be usually local or from nearby cities. It may be on a medium or a small scale. The number of participants may be limited. Some events enjoy the reputation of the organizing institute. If some conference is arranged by an institute of international reputation, it makes a lot of difference. In India, the conferences arranged by Indian Institute of Technology and Indian Institutes of Management have the brand name. The purpose, the level of the event and the organizers decide the venue. The facility available at the venue is also important for the presenter. It decides the ambience of the event and facility available for presentation.

Earlier, we were relying on oral presentation only. Accoustic design of the room and mike system can ensure proper audibility. If the room is small and audience is limited, bidirectional visibility of a presenter and the audience is possible. The presenter can see the audience response. He may be motivated or discouraged by the oral response, body language and gestures of the audience. He can dynamically change his presentation. For some time, film and slide projectors
were used. Nowadays, multimedia tools are extensively used for the presentation. For a simple presentation or a routine teaching, overhead projectors and transparencies can be used. It may be possible for a small room size of 80 square meter or less. It helps in projecting main points and diagrams saving the time, adds comfort to the presenter and gives more time for eye contact with the audience. For general presentations, computers, laptops, CDs, and LCD projectors with a proper sound system are used. A pen drive provides a very easy way to carry presentation, provides large memory. They allow presentations for a group of 100-500 in a closed auditorium. In yoga camps, religious and political meetings, the presentation is supported by close circuit TV and cameras and good audio systems. It extends the scope of presentation to hundreds of thousands of people. It is a one way communication, the personal touch is lost. It is usually arranged in an open ground. It is a good option for a mass media communication. For distance learning programs, the state and national agencies conduct number of teaching learning sessions. At the presenter end, it is a closed recording studio with good audio video and computer facility, with more than one camera. The expert gives his presentation, to create the feel of a class room, some local audience or students may be arranged. But, the main audience is distributed over the state, nation or the world. Techsat, Edusat, Eklavya are such educational channels in India. There are number of receiving centers in various colleges, with necessary hardware and software. It brings the presentation of a world class expert to your doorstep through satellite communication. On the audience side, there is a provision of asking questions. In most of the cases video transmission is one way and the audio is bidirectional, for interaction purpose. Some recorded presentation can also be transmitted, for frequent use of the same presentation.

Nowadays videoconferencing is also becoming popular. There may be a presenter or a panel of experts at one end, connected to number of receiving centers for the audience. In some cases, audio and video both may be bidirectional.

Depending up on the locale, the presenter gets idea about the facility available and he can prepare the presentation. In some cases, dynamic change or modifications are possible, depending on the presence, mood, response, questions and queries of the audience. Added facility involves the hardware, software and other costs. Depending on the available budget and requirement of purpose, optimum facility can be used.

To facilitate the presenter, good acoustic design of the auditorium is necessary, echoes should be avoided. Proper mike arrangement and sound system is necessary. Collar mikes and pocket mikes keep the hands of the presenter free. He can utilize them for proper gestures. Some halls are square, some may be rectangular. In any case, pillars or other obstructions should be avoided, to ensure visibility. Some halls have necessary slope. In some cases the seats are arranged in
an arc form. On the front side of the hall, usually stage is arranged to provide proper elevation to the presenter or the expert. There is a tradition of providing a podium on one side of the stage. The podium carries light and adjustable mikes. For LCD projector, screen arrangement and remote control with laser pointer may be provided. During oral presentation, the hall lights may be on. It is possible to keep eyes on the audience. When LCD projector is used, in most of the cases, lights in the hall are switched off. If a presenter is slightly weak or if the presentation is less interesting, in the darkness mob psychology works. The audience, particularly students, may create some disturbance. The presenter should be ready to handle such situation. Some lights in the rear portion of the auditorium should be kept ‘on’ and if necessary, some volunteers may be arranged to keep watch. If the presenter just reads the slides, the audience is bored. The slides are for prompting purpose, to get the points in a proper sequence, for projecting diagrams and other complicated details or tabular data. Most of the presentation should be in the oral form. During the presentation, many speakers have the habit of moving on the stage and use a lot of hand movements. Sometimes, the chord of the collar or pocket mike creates noise. A professional presenter will see the auditorium and other facilities in advance, so that he can plan his strategy. In some conferences, it is observed that CD can not be read, USB port is not available and at the last moment, the presenter is put in an awkward position, if the equipments are not well maintained and there is no standby arrangement. Too much light in the room, affects visibility of projected material. If the door is near the stage, many people enter the hall late and disturb the speaker and the audience, both. If the auditorium has two doors, the front entry should be stopped, once the programme starts. Late entry should be from the rear gate. In a big hall, airconditioner requires some cooling time. It should be started well in advance. If the temperature is too low, it may also create problem. During the presentation, if the mains supply goes off, the audio and video system will not work. Again, it is a point of disturbance. Good halls have arrangement of a diesel electric generator. It should be started immediately. If it is delayed or does not start, the presenter should be able to manage the show orally.

IX.4 Organising the contents: The presenter requires a good voice and confidence. Confidence comes by preparation, knowledge, familiarity and practice. During my long teaching career and working as head of a big department in engineering colleges, I have observed that many new lecturers fumble on the stage. It may be his first experience to face students or audience, he may not be thorough in the subjects, he has not prepared and practiced the lecture, he is not confident because, he knows his weakness. He is feared of the questions, likely to be raised by the students. For a teacher or a presenter, the first impression is the last impression. I advice my young teacher friends, that in the first period, do not worry about the syllabus coverage. For that you have a full semester left. In the first period, you try to impress your students. Same is true for any general
presentation. You should go with full preparation. If you are going to use some written material, it should be checked and arranged in a proper sequence. It should be readable. For a new speaker, usually the material is exhausted in the middle of the lecture and plenty of time may be left out. The material prepared by you should be more than necessary, for the specified time. If you are using a CD or a pen drive or a laptop, the material should be loaded in advance, opened and checked in the hall itself, to avoid last minute problem.

For the presentation, step in on the stage with confidence. If some body introduces you, wait for that. Thank him. Reach the podium with a smiling face. Greet the audience by hello or good morning. If you are not introduced, introduce yourself in short. Your first slide of presentation can be used for your introduction – your name, affiliation, position, etc. Establish eye contact with the audience. If the hall is big, establish eye contact with people on the front line. Start with a slightly louder voice, reflecting your confidence. When you start presentation, you should be aware about the time available to you. Most of the programs usually start late. The program is rescheduled. There is a crunch on the time available to each speaker. If necessary, ask the organisers about the time allotted to you. You might have prepared your presentation, considering the time expected by you. When time allotted is reduced, dynamically you have to plan your time management for the presentation. I have observed that many immature presenters waste a lot of time initially and before reaching the main theme the warning bell rings. In the written script of your presentation or its soft copy, it may be well arranged and all topics may be covered at length. It is your planning stage but, now it is your turn to implement and deliver it. Initial smile, greeting and your introduction will make you familiar with the audience. It is just like a handshake in one to one communication. In the first minute or two, you impress the audience, you win over them. You can win their confidence. For the remaining part of the presentation, they will be ready to hear you. They are under your control.

During actual implementation of presentation, depending on time, response and situation, dynamically you can modify the contents. Some part, you may skip or move in a fast forward mode. Some part, you may elaborate, for some part you may follow interactive mode. Sometimes, there may be a number of presenters on the same topic or same issue. It is possible that your predecessor may cover the details which you wanted to cover. You may skip them or cover that part faster. In the university convocation, the speech of the chief guest is usually printed and distributed in advance. Some chief guests read their speech word by word. Sometimes, it may become boring but, looking to the event and dignity of the guest the audience bears it. At our university, in some convocations, I have observed that the chief guest sticked to the printed script but, he did not read it. He presented orally. It draws the attention of audience, as he may add some thing more or tell the same thing in a slightly different form.
The overall content of any presentation may have a lot of variation. It depends on the topic, the purpose, place where it is presented, time or occasion when it is presented, background and level of the presenter and the capacity in which he is called in the function. He may be the chief guest, he may be presiding over the function, he may be a keynote speaker in the conference, he may be an invited speaker, at the conference for a specific topic, he may be representing the organizers or sponsors, he may be a registered delegate, he may be the organizing secretary of the conference or the symposium. Depending upon his role in the conference, the presentation may vary. In other meetings, it may be a routine reporting, it may be a press release at a press conference, or it may be a presentation for marketing or for some statutory requirement. In all these cases the topic and content may be quite different.

IX.5 Presentation Format: It is very difficult to generalize all the presentations here. But, in a very broad sense, the content can be divided in some topics like introduction, main content and conclusion. For the technical papers and the dissertations, it is necessary to mention the references at the end.

Introduction: The first part of any speech or presentation may be the launching pad of your presentation. A spaceship, well launched from the launching pad, can attain proper altitude, to reach the desired orbit. Same is true for a well started speech or presentation. In an official presentation, the introductory part may be formal but, in the popular speeches or general public speeches, some people start in a dramatic way. It is also customary to welcome the audience for the programme. In our institute we usually say “It is my pleasure, to welcome you at this monumental temple of learning. It is not known, only for the beautiful buildings and eye catching landscape with green grass but, by quality of education ..... I hope your stay will be comfortable here for the next two-three days.” Sometimes, the speaker expresses his sense of gratitude to the organizers of the host institute, “I am highly thankful to the organizers and the management of this institute for giving me the opportunity to visit this renowned institute, be a part of this programme and share my experience with you”. In a long presentation, usually the introductory slide highlights, what is going to be covered in the presentation. It creates interest and curiosity among the audience. In the introductory part, it is necessary to introduce the topic sometimes objective of the presentation is given. It will trigger the minds of the audience, for what they are going to hear for next 30 minutes or one hour. In a classroom teaching, in the first introductory lecture, the teacher gives overview of the subject. It covers the scope of the subject, the significance of the subject, importance of the subject with reference to the branch of engineering of the students, its correlation with other subjects and other branches of engineering, the application of the subject, the textbooks and reference books for the subject. It is called introduction but, it is a
full lecture or a presentation itself. It opens a window of the minds of the students through which, they get glimpse of what they are going to see in detail, during the semester. The objective is to give exposure to the subject. In the introductory lecture, I tell my students that each of the topics, I will cover in detail. Today it is possible and not necessary that you understand the lecture word by word. You should appreciate the significance and scope of the subject. Later on, when different topics are covered one by one, each topic is introduced at a glance and then explained in detail. During first year of college, when I was studying calculus, various formulas were derived by the teacher for integration and differentiation. As the subject and topics were not introduced formally, I was wondering that the formulas were derived and established long back, why each student should derive it again and again? It is wastage of time. Later on, during my engineering studies and teaching, I realized that we come across some irregular shapes and objects for which standard formula cannot be used. Integration process helps in finding the area and volume of irregularly shaped objects. Similarly differentiation procedure helps in finding velocity, acceleration and slopes of irregular profiles.

Main Body: The second part of the presentation follows the introduction. It is the core of the presentation. Whatever you have to convey in your speech or express in your presentation is covered here. The length of this core part depends on the nature of the topic, the scope, objective and the time allotted. For systematic presentation, it is divided into number of subtopics or subtitles.

Sequence: When the main topic involves number of subtopics, they may be given specific subtitles. For proper understanding of the topic, the detailing of subtopics is necessary. These subtopics are to be arranged in a chronological sequence. When we write a book, it has number of chapters. These chapters are arranged in a particular sequence. Similarly the subtitles and subtopics are arranged in a sequence, which will lead to the proper understanding of the whole topic. In addition to understanding, the continuity of presentation is also important. Initially, when we draft the script, we try to arrange it in some sequence. We read it and realize that it is not a proper sequence. By reading again and by trial and error process, we decide the optimum sequence, with reference to the continuity and understanding. Until it is arranged properly, we are not satisfied. During actual presentation, we follow the same sequence. Weightage or time allotted to each topic may be modified, if necessary.

Subtitles: The main topic may contain many details. It is convenient to divide it in many subtopics. Sometimes, it is possible to classify the details into different categories. This categorization helps in understanding and remembering the details. In some cases, the concept is developed and explained step by step. These steps are arranged in a logical sequence.
Various options: In case of some topic, we have to deal with various options. If the presentation is about the career options for science students clearing 12th examination, it is necessary to review the various branches of engineering, medicine, pharmacy, science, etc. If the presentation is about energy sources, it is necessary to cover various options like hydro energy, thermal energy, nuclear energy, solar energy, wind energy, etc.

Comparison: Some topics are such that we have to compare two options by discussing the merits, demerits, limitations, etc. e.g. grid connected system and distributed generation, conventional and non-conventional modes of generation, socialism and capitalism, etc.

Cause and Effect: While discussing social, economical, educational, legal aspects of certain issues, normally we correlate the cause and effect. In one case, if the situation is of one type, it may have certain implication. If the situation is of the other type, it may have other implication. For different issues under different situations, the effects may be different and the problems can be analysed accordingly.

Problem solving: In management studies, usually they teach by study of different case studies. While discussing various social, economical, educational, legal issues also, when overall problem is to be explained, first cause and effect type approach gives idea about various possibilities and consequences. It proposes number of alternative solutions and at the end, one feasible or best or optimum solution is to be suggested.

Review: In technical paper presentations, initially the work done by others is reviewed, to compare the various technologies, hardware, softwares and experimentation used. Success and failure of earlier approaches is also reviewed to find and justify the new approach.

Design & Development: If the presentation is about a B.Tech project, an M.Tech or a Ph.D. dissertation, the design of the system, component identification, fabrication, experimentation or testing of the system are to be explained properly because, it is very important for the assessment.

Results: In a project presentation or a research based presentation, the results may be presented in a tabular form, along with graphs, waveforms, photographs, flow charts, etc.

Conclusion or Summary: The presentation about a general topic may be summarized at the end. In last few minutes, the main points are reviewed. If some message is to be conveyed by the presentation, it may be highlighted at the
end. In technical presentations, after discussing various options, the conclusion tries to justify the best option. In an experimental or a project or research work, on the basis of results, some conclusion is drawn. It is the outcome of the experimentation or project or research work.

Conclusion is not a separate or a new topic. It summarises your presentation. You can not terminate your presentation abruptly without conclusion or summary. It may look incomplete. In conclusion, you may not raise questions. Actually you raise some questions yourself or in the minds of the audience. The best presentation may comply, all possible queries.

References: To make the presentation authentic, number of books, journals, articles and paper may be referred. It is customary to mention the references at the end. The list of references may not be read during the presentation but, it should exist and if somebody inquires, may be discussed.

Question Answer: The presentations are not meant for one way communication. Usually, it is for sharing the experience and expertise of the speaker. In a limited time, the speaker can not cover each and every aspect of the topic, when the scope of the subject or a topic is very wide. Usually, he shares his experience or views and sensitizes the minds of the audience. In most of the conferences or presentation sessions, due to the shortage of time the question-answer session is neglected or compressed or stopped abruptly. When the presenter has touched certain issues, the audience may have a lot of questions and queries. Some people in the audience ask questions for the sake of asking, just to mark their presence. Some people try to convert the question-answer session into a discussion forum, such people should be discouraged. On audience side, the questions should be short, relevant and to the point. During main presentation, the presenter should be permitted to complete his presentation first otherwise, he may be disturbed, may lose the track and the issue may be diverted. A good presenter anticipates some questions, and answers them, even before they are asked. While asking, the questioner should be polite, maintain the dignity of the speaker, seek his permission orally or by raising a hand and then ask. The questioners should be provided mike. The presenter should listen to the question properly. He should understand the questioner and his purpose. The speaker should not be annoyed, when a question is asked. If the question or a query is genuine, he should answer or comply it. The answer should be also, short and to the point, to satisfy the questioner. If the question is unnecessary or irrelevant, it can be avoided smartly. Political speakers are smart enough to avoid or divert even necessary and relevant questions. In technical or policy presentations, the questions provide a very good feed back. In a class room teaching, if no questions are asked, either the students have understood every thing, or they have not understood any thing. When questions are asked, the speaker should appreciate that the audience has listened
to him, tried to understand him, so that they are able to ask questions. If some
questions require more time to reply, they can be postponed for a lunch or other
break session. In a class room teaching, a good teacher will not discourage the
students from asking. It is possible that a new teacher may not be able to reply all
the questions, as and when asked in the class. He should reply some questions on
the spot. Remaining questions, he should keep in the mind and reply in the
beginning of the next session.

Actual content of any presentation depends on the forum, where it is presented,
the size and nature of the audience, purpose of the presentation, the level and
background of the audience, other experts or speakers sharing the platform, other
presentations on the same subject or the topic and the time allotted. So, it is
difficult to generalize the nature of such presentation or to define the main blocks
of the presentation, titles and subtitles. The presentations for different purpose
and different audience may have a lot of variation. Some idea of such variations can
be given by showing the general nature of some of the presentation. It is not
appropriate to put a complete text of any presentation here.

IX.6 Preparation of outline of presentation: It is necessary to plan properly for any
activity, so that the implementation can be perfect. Same is true for any
presentation. Most of the problems are created by speaking, at the same time
most of the problems are solved by proper communication. Wise people think
before speaking and fools think after speaking. You may have a lot of knowledge
or information but, what to speak, when to speak, whom to speak, where to speak,
how much to speak and finally how to speak that requires a lot of consideration.
Some presentations may be in the form of an oral speech and some presentation
may utilize the available technology and facility available. In either case, the first
planning should be about what to speak. The details of the speech or presentation
should be worked out in advance. Once it is decided as to what to speak, the flow
chart of the presentation should be decided. The whole presentation is divided into
number of segments. These segments may be number of discrete points or
sequential points. The discrete points may have some correlation with each other.
In sequential points, one point may lead to the other point. The sequence of points
may be outlined initially. By reading and re-reading the sequence of points, the
optimum sequence can be identified. The outline of the presentation is the initial
blue print. It helps you in the construction of your speech or presentation. It
guides you to maintain the proper track of the speech or presentation. As vector
diagram specifies the amplitude and direction at each point, the out line also helps
you, in deciding the further course in the presentation. Some seasoned professional
and political speakers can go on speaking without any supporting material. They
can decide the content and sequence on line. But, most of the professionals
prepare the outline in advance. It is the systematic approach. For conducting a
one hour lecture, a professor will decide the topics to be covered, their sequence,
depth necessary for the subject in that class. These points may be noted down on a piece of paper, in a particular sequence. During the lecture, he may refer the points and the sequence. Some professors just remember the points and sequence in their minds. Sometimes, the sequence is logically developed during the presentation itself. Some people write down the points and sequence on the blackboard, using chalk stick. If I have to teach gyroscope to instrumentation and control engineering students, the outline may be as follows.

(i) Introduction (ii) Construction and working (iii) Transfer function (iv) Applications (v) Summary

Introduction covers, what is a gyroscopic effect and what is meant by a gyroscope, what is its significance in the control loop. The construction considers different types of gyroscopes, their construction and working. The transfer function considers generalized equations, relation of input and output in Laplace transform form. The specific cases for certain types of gyroscope are covered. In an application part, use of gyroscope is considered for the measurement of position and velocity change under different input conditions. At the end, the coverage of the whole topic is summarized. The main points related to all the five subtopics are reviewed in a few minutes. To check the grasping of the students, some questions may be asked during the lecture or at the end.

Just like municipal or urban development authority, it is not hard and fast to follow the map or blue print of your presentation during the actual presentation. The speaker can take some freedom and make necessary changes as and when necessary. It depends on the background, understanding and response of the audience. A lot of illustrations can be added to make it interesting to avoid monotony, to arouse audience interest and to satisfy queries of the audience.

IX.7 Visual Aids: Whether it is a teaching session or a general presentation, if only oral speech is used, it becomes monotonous. You may be a genius or a real expert in the field. You have no difficulty about the knowledge to be shared or information to be given. But, it is not sufficient for a good presenter. Just like communication, presentation is an art. Nowadays, on internet there may be number of sites, giving the presentations of some renowned experts, all over the world. Some of the sites may be free and some may be on payment basis. To learn the art and science of presentation, it is worthwhile to see some of the presentations. On some distance learning channels, only the audio part is telecast with the printed script on one side. The experience is just like hearing news on All India Radio or Doordarshan. Commercial news channels also use a lot of audiovisual supporting material. For teaching purpose nowadays, a lot of teaching aids are available. For a general presentation also, a plenty of audiovisual aids are available. It is necessary to engage as many senses as possible. Audio part of presentation, only engages hearing sense. We say, seeing is the believing. If we can display and demonstrate
something, visual sense is also employed. When hearing is added with visual, it leaves some impression on the mind. It helps not only in understanding but, in remembering. We remember by inference, when audio is supported by visual effect, the mind gets inference to understand and remember. It is very difficult to explain certain things by only oral expression but, if you can show the shape, size, movement and working, a lot of efforts on explanation are saved. Explaining the solid geometry or a three dimensional vector field or the three degree of freedom for a gyroscope is very difficult, if we try only with words but, with models and visual aids, the job becomes very simple and fruitful. If you have to explain the working of internal combustion engine or expansion and contraction of heart, it is very convenient, with video presentation.

Nowadays, the use of visual aids is becoming more and more popular. It is not just a fancy. It has scientific reasons, and the recent development in technology has helped a lot in its development and use. As discussed earlier, when visual effects are used, in addition to hearing sense, visual sense is used, there is more involvement of the mind and it leads to many advantages. Only hearing the spoken presentation becomes monotonous. After few minutes the audience may lose the interest. Now, the audience is also a viewer. It generates more interest. When we hear and see the thing with interest, we listen instead of just hearing. It results in a better retention. Children, ladies and some gents also know and remember more about the movies and TV serials. Visual aids reduce burden on memory or avoid dependence on printed or written material. The points covered by presentations provide the skeleton on which the body of presentation can be built. The flow of information is more lucid, co-ordination and continuity of topics can be achieved in a better way. In general presentations, sometimes language may create a gap between the presenter and the audience. Even with English as most accepted and used language through out the world, the regional and national variation in pronunciation and accent make confusion or misunderstanding about some words but, visual aids help in solving the problem.

The visual aids being mentioned should not be used as a luxury but, necessity in the optimum form, depending upon the requirement of the occasion and the audience. Sometimes the presenter feels incomplete without the visual aid. It adds to his competence and capability. Sometimes, it helps in covering very wider scope of the topic, in a very limited time at his disposal. In the conferences, the key note speaker has to talk on a technical topic but, the audience may have a varied background. The scope of the topic may be very wide and time permitted may be only 30 to 45 minutes. Visual aid comes to the rescue of the speaker.

The visual aid permits you to cover many complexities in the presentation but, the nature of visual aid should be selected based on the requirement of the topic, level and back ground of the audience and the purpose. You can justify the use of
black board and overhead projector and physical models for a classroom teaching in an engineering college. Here, you are bound to the specified course content, specified by the university and is to be covered in the available periods during the semester. Video presentation may be good for an expert lecture or a general presentation but, not for routine class room teaching. The students, research scholars and technical audience can appreciate the presentation of a tabulated numerical data, graphs, bar graphs, histograms, statistical distribution, flow charts etc. But, non technical audience can not understand and appreciate it. Instead of creating positive effect, it may create negative effect. On the other hand, technical audience may sometimes not be convinced about the authenticity of your work without circuit diagrams, physical layouts, tables, graphs, bar graphs, experimental results, etc. If the equipment or organ of human body to be explained requires three dimensional concept the visual aid is the requirement of the topic.

A black board with chalks, a white board with a marker, a flexible board, roller board or a slide board, lecture notes or handouts, preprinted speech, physical 2D and 3D models, flip charts, overhead projectors with transparencies, slide projector, film projector, video and LCD projectors with computers and laptop are extensively used presentation aids. Depending on the budget and available facility they can be used.

The black board with a chalk and a duster is a very old, tried and tested technique of teaching and also, general presentation. The size of board should be proper. It should be arranged at a proper height, so that all the students or whole of the audience can see it. The teacher of average height should be able to write on it. The room and sitting arrangement should be such that there is no obstruction in the line of vision for the audience. There should be enough light on the board. In the beginning, the board should be cleaned completely. If the board is large enough, it can be divided into two to three parts during use. The left hand part should be used to write the points to be covered in the presentation. While writing, necessary pressure is to be applied to the chalk, to make the script visible. It should not be faint. Usual problem with poor quality of chalks is that they generate a lot of chalk dust and break easily, proper holding of chalk is necessary to avoid breakage. All of us may not have the best hand writing but, it should be legible. For a good teacher, good board work is also, a necessary requirement. The font size of letters should be large enough, for the visibility of the last member in the audience. To highlight some points, underlines or colour chalks can be used. If necessary, diagrams can be drawn on the board. In diagrams also, different colours are useful in discriminating one part from the other. Colour should be used for clarity and detailing, not as a fancy for decoration purpose. As the explanation proceeds, additional point or details are written on the board. It is a gradual development of the topic. It helps the audience to write or store the topic in their memory gradually and sequentially, when an oral presentation is supported by a
good board work, it has a long lasting effect on the audience. It enters into their non volatile memory. Otherwise, only in oral presentation, they enjoy, appreciate, applaud but, as soon as they are out of the hall, their minds may be empty. During presentation, when use of some writing is over or the board is full, it should be cleaned and then used further. Do not try to write in small gaps left in between or do not jump here and there on the board. Proceed from left to right and top to bottom. As a good manner, when your presentation or lecture is over, you should clean the board. In schools and educational institutes, usually the board used is black in colour. We can write or draw on it with the help of white or colour chalks. Dustless chalks are slightly costlier but, breakage being less overall, they are not so costly. Absence of dust is good for the health.

In a classroom teaching and routine presentations, overhead projectors are extensively used. On transparent plastic sheets, with the help of sketch pens, the presenter draws or writes in advance and the transparencies are projected in the classroom or a auditorium on white screen, using overhead projector. The price of OHPs being much much less than the LCD projectors, they can be used by all teaching institutes and all auditoriums. The weight and size of OHP is less. They are portable. Some handy versions of OHP are also available, which can be carried by the professional presenter with him. The OHP bulb decides the intensity of light and visibility. The hall should have less surrounding light, to create necessary contrast for visibility. Sun blinds on windows or curtains may be useful. The OHP has some simple controls like ON/OFF switch, intensity and focus control, adjustment of reflector mirror to bring the image to the screen. White screen is necessary for this purpose. In the worst case, projection can be done on white flat wall. The OHP should be kept at a proper distance from the screen for proper image size and should not obstruct the line of vision of the audience.

Multiple colours of sketch pen are available but, only black and some dark colours ensure visibility from the distant corner of the room. It is not advisable to write long paragraph of running script on the transparency. Only main points or topics, in a proper sequence should be written. Proper font size and colour should be used for writing. Capital letters may not be necessary but, clear, legible letters and characters should be used. The words should be well spaced to avoid crowding. In one line, more than three-four words should not be used. Between two lines, sufficient spacing should be used. Different points may be indicated by bullets or dashes in the beginning. To highlight some points, different colours or underlines can be used. Increase or decrease of parameters can be indicated by upward or downwards arrows. Diagrams should be large enough, so that one projected diagram occupies full screen. For discrimination between different parts, different colours can be used. Stator and rotors of a machine, electric motor or generator should have different colours. Parts attached to stator should have common colour and parts attached to a rotor should have common colour. The
three wave forms for the three phases R, Y, B of a.c. voltage should be drawn with red, yellow and blue colour. For explaining the colour code of a resistance, colour bands should be used. There is no rule for number of transparencies to be used but, in a class room teaching, more than 2 to 3 transparencies should not be used for an one hour lecture, otherwise the presenter may be tempted to read the transparencies. Transparency only guides and supports the flow of presentation. To draw a diagram with a lot of mechanical details on the board, requires a lot of time and all of us may not be experts in drawing on the board. If you are busy in drawing the diagram on the board for a long time, the audience may be bored, you may be under tension, you lose the eye contact and the students get an opportunity to create disturbance in the class. Drawing diagram on a transparency in advance, using your spare time and employing drawing tools, saves your presentation time and you can explain in a better way. In a general presentation, the scope of the topic may be very wide and the time allotted may be less. The presentation may not be university curriculum based or examination oriented learning. For such presentations, even more than ten transparencies can be used in one hour. You can run through them, just to give exposure of the topic or subject. To separate the transparencies during storage, butter papers may be interleaved. At the time of presentation, the necessary number of transparencies should be checked and arranged in a proper sequence. The diagram should carry the titles and part wise labels. While discussing a particular point, laser pointer can be used. If it is not available, put your pen on the transparency at that point. To check the sequence, some numbering or marking should be used. You know the total number of transparencies and should keep track of number of pending transparencies, to manage your time. But, it is not necessary for the audience to know the total number or pending number of transparencies at any stage. It will divert their minds, to keep track of transparencies, instead of attending the presentation. The presenter should be familiar with controls of the OHP. If the OHP does not work or power fails, the presenter should not be handicapped. He should be able to handle the speech without OHP. Print copy of transparencies should be kept. You may deliver different expert lectures at different forums. You should preserve the sets of transparencies for various lectures. It will be your library. You can deliver these lectures, at other similar forums at short notice. Your preparation time is saved, your versatility is increased. It boosts up your confidence level. For teachers or general presenters also, it should be understood that the set of transparencies is your asset but, when you deliver the lecture on the same topic second or third time, you will get some more points. You can add some more points in the free space available. For major change or addition, you can add or prepare new transparencies. In popular lecturers, sometimes some audience have the opportunity to hear you second or third time. If you are updating your transparencies or presentation, the audience will have a higher respect for you.
In the teaching line, it is advisable to prepare lecture notes. The reading of a subject by a teacher is not for himself. He has to prepare the subject, such that he can deliver the good lectures in the class. In the teaching line, we have to teach the same subject again and again. First time you may read one or more textbooks and reference material. Every time it may not be possible and necessary to read all the material again and again. A good teacher, particularly a beginner should form a habit of preparing lecture notes. Lecture note summaries the textbook material. You can prepare the notes, if you have read and understood properly. While writing the notes, if you are not clear about the concept, you may re-read the same. As you write, while preparing the notes, the material will also go to the memory of your mind. You can teach in a better way, with more confidence. Sometimes, for students also, we used to give lecture notes. In olden days, it was dictated. Nowadays, it is possible to get Xerox copies of the notes and circulate the same in advance, as handouts to the students. One philosophy criticizes it as a spoon feeding process. For average mass of students it is very helpful. Because, with one round of classroom presentation, they are not able to retain much. At the time of examination also, these lecture notes are very useful to the students because, they can not go through the whole textbook during revision. In another interpretation we say, if the Xeroxed notes or Xerox of transparencies are given as handout to the students and if we are having a good lot of students, they study the handouts in advance, they come to the class with some understanding of the subject. The job of the teacher becomes simpler in the class room. It is possible to make the presentation more interactive in this case. Otherwise, when the students are exposed to the topic for the first time and if they have no familiarity, practically there is no scope for the interaction. The understanding level of the audience may be poor and sometimes the presenter is frustrated. Nowadays, there is a universal shortage of good teachers in engineering colleges. Under one university, there may be large many colleges, teaching the same curriculum. But, there are very few colleges in urban areas, with good, senior, experienced and well qualified teachers. They can prepare good lecture notes or handouts. Most of the colleges in rural areas are left to the mercy of fresh graduates or postgraduates joining the teaching career. Under this condition, if the handouts of a good professor can reach the teachers and students in distant corners, the deprived students can be benefitted a lot. In spite of a lot of variation among teachers, it can ensure uniformity for the goodness of the students.

In the conferences, the preprinted proceedings, covering all the papers to be presented are given. The presentations of the key note speakers are usually printed and distributed in advance. In many conferences, symposium and convocation, the speech of the president or the chief guest is printed in advance and is distributed to the audience. As the audience gets advance copy, the interested people can refer it in advance and during the presentation also, it is with them. If permitted they can interact. In earlier days, slide projectors were used.
For explanation of internal details of some machines, a set of photo slides were available from manufacturer. For maintenance workshop, the internal intricacies can be displayed perfectly. For training in microbiology, sets of slides are available. Using slide projectors, these slides can be projected on a big screen. If the slides are not readily available, to prepare the slides is a specialized job. It requires special set up in all the cases. Now, this approach is almost obsolete.

Computer and information technology has brought revolution and resolution to the presentation techniques. There is a zoom facility. The presentation is typed using key board and stored in the computer memory. Compared to the conventional typing, here corrections and editing is very simple. There is no problem of over writing or erasing. Software permits the spell check. For majority of presenters, spelling is a great botheration. Spell check easily allows the checking and correction. Your assistant can type the script for you and you can check the typing mistakes as per your convenience. After initial typing and checking, different font sizes, required at different parts, titles, subtitles, underlines can be arranged most conveniently. In each line, only three words can be arranged. Different lines are well separated from each other. Each page of presentation can be well arranged. If some diagrams are required, they can be drawn using the available software and inserted at proper place. Text book type diagrams can be scanned, stored and inserted in the presentation. The pages can be arranged in proper sequence, just like transparencies or slides. Multimedia hardware and software has added many useful features to the video presentation. Some of them can be used as per the requirement of the presenter and the program.

Some people like to display the whole page at a time and different pages one by one in a sequence. The remote control with the video/LCD projector provides many facilities. Particular part of the page can be zoomed or enlarged. Pointer is inbuilt in the remote control. On internet, many visuals are available and they can be easily interwoven in the presentation. These visuals are very catchy, in some cases. The script may be still but, these moving visuals add dynamism to the presentation. Some background music or supporting audio pieces add colours to the presentation. A lot of video clippings are available on internet, which may match the requirement of the presentation on any specific topic and help the presenter a lot. Thanks to development of IT and multimedia systems which makes an average speech in to one of the best presentation.

The technology has brought a lot of advantages for the professional presenters. If a presenter is not familiar with these systems, the advantages can be converted to disadvantage. So, proper knowledge is necessary and use of technology should be optimum. It is necessary to check related hardware, software and script before actual presentation. You can load your presentation directly, through CD and nowadays, pen drives are very handy. During presentation, you should be able to
use the keyboard, mouse and remote control, to move the slides forward or backward, select a slide, enlarge or zoom a part. You should keep total number of slides in your mind and at any stage of presentation, should be in a position to manage the time. If the time is wasted initially, later on you have to run through the slides, which is not proper. During presentation, consider the weightage of each slide and give necessary time. If time does not permit, skip some slides or cover them in a fast forward mode and important slides can be displayed for more time. When a video presentation is for teaching learning process, the number of slides for a one hour session should be limited to four or five. The help of slides is to be taken for points to develop the skeleton. More information should be conveyed orally. For a general, popular topic where scope of the topic is very wide and only exposure of the subject is to be given, large number of slides, as many as 30 to 40, can be used for a one hour session. 

By any reason, if the projection system fails, you should be able to manage the show with hard copy of the presentation. Even if the system works, the hard copy helps you in keeping track of presentation. Usually 6-8 slides are printed on A-4 size paper for this purpose. To explain the working of a machine in a working condition or topics like physiological working of heart and cardiovascular system, live video is used instead of slides. It gives clear cut idea about instant to the instant variation of the system. It is advisable to go through the rehearsal of the presentation. If it is rehearsed before your familiar group or seniors, they can suggest some points missed by you. You also get some idea about anticipated questions and can prepare for the same before hand. It will further help you, in boosting your confidence and time management. You can find strength and weaknesses of your presentation and can improve upon, where and when necessary. You may be expert in your subject but, perfection can be proved by preparation, practice and proper performance.

When the higher technology was not available, flip charts were also used. In this case two pads of paper are used. The presenter may use coloured marker pens to write on a white or plain paper. This mode may be possible for a small group of audience. The writing may be based on a large letter size. At a time one side of chart can be used. It may be shown to the audience by showing the pad held by his raised hand.

In the distance learning programmes, some of the modes can be combined. The expert may be in a closed studio. Against him, there may be some dummy audience. More than one video camera may be used to cover him and his presentation. He can use transparencies, typed script, printed pages of books, script stored in the computer memory and physical models. It is also possible to write a formula or some other line, which can be displayed and transmitted on line. I had the opportunity to present a demo lecture on scope of biomedical engineering for the edusat programme of ISRO at SAC Ahmedabad. It was a live telecast and this mode of presentation is very effective and useful.
All the visual aids require some familiarity and proper experience of using them. The visual aids should really aid you. They should add a grandeur to your presentation. Like AIDs (Acquired Immuno Deficiency) it should not become a burden for you. In emergency, you should be able to get rid of it. The visual aids should be properly interfaced with your presentation. Like songs of Hindi movies, it should not be forcefully introduced in the presentation. When any slide is displayed and if necessary, the explanation should start immediately, otherwise the audience may start its own interpretation and it may be wrong, also. The explanation is done by speech as well as gestures, when necessary. Visual aids are more useful for the guidance. Let them observe it, continue explanation with proper eye contact with the audience. You should not be confused with your own slides. While standing or moving on stage, the line of vision between the audience and the screen should not be obstructed. The hall arrangement should be obstruction free. For each slide, reasonable time should be given, during which the explanation of that slide is over, then the slide can be changed and explanation of a new slide can be started.

**IX.8 Nuances of Delivery:**

In a presentation, usually one person may be communicating with number of persons on the other side. It is not simple like operating the main switch and creating flow of current to number of load circuits. Even when you open a water tap, the flow of water comes but, receiving vessel is necessary to collect the water. Only your willingness to present is not sufficient. You require some platform or program, where you can present. On the other hand you require some audience to hear you. Just physical presence of a presenter and an audience is not sufficient. The presenter requires the knowledge of the subject or topic, which he can impart for the benefit of the audience. When we recruit fresh lecturer, he has good UG and PG degree. He has the knowledge of the subject but, usually he faces difficulty in delivery. It requires experience, in addition to expertise. Good topic badly delivered, leads to failure of presentation and bad topic properly delivered may lead to success of delivery. Here comes the personal factor, called art of presentation.

On the other side, audience interest is equally important. The presenter may be expert, experienced, putting his best efforts but, the audience may not be able to appreciate and may sleep. The presenter also carries the responsibility of creating and sustaining interest, so that the audience will listen to him. For this purpose he should know in advance the purpose for which the presentation is arranged, the size of audience, level and background of audience, the time available and the hardware and software facility available for the presentation. These factors should be considered, while preparing the presentation.

The success of the actual presentation depends on many other factors. How you prepare is important but, how you present it is much more important. Nowadays,
many presentations of professional experts and renowned professors of foreign universities are also available on websites. You may go on speaking at a higher pace but, audience may not be able to digest at the same time. Quality of your voice is also important. It should not be too loud or too low. Proper audibility should be ensured. Too loud voice may hammer the minds of the audience. To stress some points some times, variation of loudness is necessary. Periodic pauses are also necessary. You may not have melodious voice like many gifted people but, your voice should be tolerable by the audience. Planners of presentation feel that the presentation is necessary for the audience but, audience should feel that it is worth for them. Normally the presentation of vote of thanks is a tedious process. In traditional form we may have to say ‘I thank......’ fifty to hundred times. I usually say this speech is black and white but, still there is some scope of making it colourful. If a talk about “humour in life” is not delivered well, the condition of the audience may be miserable. In a laughter show, if you do not know the language of the presenter, you may just laugh with others but, do not enjoy the speech. The recipe for the successful presentation prescribes expertise, experience, confidence, command on language, good wit, good voice, a good acoustic design of the hall, good visual aids and their effective use. On the audience side, it requires interest, understanding level, background and discipline. Some audience discourages the presenter. Some audience encourages the presenter. Some audience discourages the presenter and sometimes makes him frustrated. It is basically a joint venture of the presenter and the audience. Only one of them can not make it successful. But, one of them can make it unsuccessful. A few members in an audience can spoil the show. Still, the presenter should be optimistic, he should put his best efforts sincerely. He should introduce all the innovations to prove his nuance. When we say presentation is an art, each presenter may have his speciality. It is the originality of style, which differentiates him from others.

Modes of Presentation: In general, there are four modes of delivery of presentation: Manuscript based, memory based, extemporaneous and impromptu presentations.

IX.8.1 Manuscript based Presentation: Certain presentations are ritual. During the annual day celebrations, the head of the institution is supposed to present annual reports. This report is prepared and printed in advance. It is not necessary that it is prepared by him self. Usually it may be prepared by his subordinates. It may be a compilation of the details collected from various sections. Usually this type of report is read during the presentation. In case of an engineering institute, it may include the activities during the last year. The programmes run by the institute, the admission status, the results, the placement of students, faculty strength, extra and co-curricular activities; achievements of students, faculty and supporting staff; research, development, project consultancy undertaken by the institution, technical papers published by the faculty, patents registered, ranking of the institute,
accreditation status, etc. are highlighted. In the preparation of the report only facts, figures and information are involved. You cannot add any colours here. It is just like a black and white movie, without any songs and music. It is mandatory to present the report, so it is read. The achievement part may be applauded by the audience otherwise, it is cool and calm.

Similarly in a general body meeting of any organisation or meeting of board of governors or board of directors, the chair person or member secretary presents the report. It is called presentation but, it is usually read orally. For a large gathering, help of video projector can be taken but, mode of presentation remains the same. In other modes, the presenter may be required to speak orally. He has to rely on the memory, here he is not required to memorise the same. But, to read the script during the presentation, advance reading is a must. Otherwise, you do not know what is printed where? You may misread or mispronounce some words. You do not know, if there are typing mistakes or some important line or words are missing or some thing controversial is included by your subordinate. It is possible that you do not know what you are reading but, as a responsible person you have to answer the queries and questions. You cannot say that it is not prepared by you. If necessary, it should be read more than once. Necessary corrections should be made in advance. Important points maybe underlined or highlighted by the highlighter available. If you have doubt about some part, it should be discussed with your colleagues. While reading, you should be familiar with the comas, semicolons, full stops, question marks, pauses and expressions should be made accordingly. Long sentences and phases should be broken properly otherwise, they are not understood properly and may mis-communicate. You should not read breathlessly. You can not run through the script in a fast forward mode but, depending on length of the report and normal reading speed, the time should be planned.

In convocation of a university and many such functions, the presentation of the chief guest is printed well in advance and is given to the audience during the function. The chief guest usually reads the speech. The chief guest for such function may be a renowned academician, technocrat or a well established leader. He touches the issues of current interest. His presentation is well prepared. He can manage the reading of presentation, in a professional way. People are eager to hear him and accept his words, as authority on the subject. Similarly the presentation of keynote speakers in many conferences are printed in advance and circulated to the delegates for ready reference. General papers contributed by various delegates in a conference are also printed and covered in the proceeding. Copies are given to delegates in the beginning.

Advantages and disadvantages: At the drafting stage, it is possible to draft and redraft it, to get near perfection. During this process, you can plan the priority of
different information and arrange them in proper sequence. Once it is finalized, in many cases it becomes an official document. It can not be changed. Certain facts and figures should be handled trickily because they can be challenged by your competitors. For example, if you claim that you are the first institute in the state, getting accreditation or A grade, your institute has highest number of placements, with highest salary and similar other points. Regarding profit and sales figures of your company, you should be careful about income tax and sales tax departments.

If you are reading a report prepared by somebody, you are not confident and not comfortable. For some query, you may have to refer to somebody else, which puts you in an awkward position. In reading the manuscript, the scope for eye contact with the audience is missing. You go through the report but, you do not carry the audience withy you. It becomes one way communication. There is not much significance of facial expressions, body language and gestures. It becomes a mechanical process. There is no scope for the dynamic change in the presentation, except you finish or curtail it, in case of time crunch. If the presenter has developed good reading skill, he can keep the presentation live otherwise, the presenter may be lost at some places, he can not maintain the rhythm, he may be confused, the audience may lose interest, instead of listening they may just takes it as a time killing. The presenter is sometimes helpless. He can not use his attributes as a good communicator.

IX8.2 Memorization Based Presentation: As the name indicates, the presenter has to memorise the presentation. From our school days, we get some practice for elocution competition. We are given some topic or topics in advance. We prepare the speech first in the written form. We can take help of books. Number of books may be available, which can help us, to prepare the script for such topics. Students can take help of their friends and elders. Using all the available resources, effort is made to prepare the best material. In elocution competition usually, the speaker speaks in favour or opposition but, in general presentation, the speaker can describe the topic from all the angles. He can cover plus and minus points, advantages, disadvantages and limitations, in addition to the general scope of the topic. The main point is that first the speech should be prepared. It is to be memorized and to be delivered orally. It is mainly the test of the memory. Some student friends have very good memory. They can reproduce it word by word. It should not be reproduced like a parrot or a replay of a recorded cassette. The audience should not feel that you are reading some page, invisible to all. Just like any other presentation, it should be supported by all attributes of good communication, good eye contact, good body language and good gestures, adding dynamism to the presentation.

For elders, this mode is considered to be tough. It is very difficult to remember the whole speech word by word. Practically we can remember the main
points. Some key points can be carried on a slip of paper or a transparency. Some people are fond of adding jokes and quotations in the presentations. They can be remembered and inserted in the presentation at proper point. Jokes may be tolerable for general popular lectures but, not much in the technical presentations. In the technical presentations, lighter illustrations can be used.

**Advantages and Disadvantages of memory based presentation:** There is no constrain of printed script or visual slides. By eye contact, he can have a better tuning with the audience. He can carry audience with him. There is no need to switch off the hall light. He can see the audience and audience can see him. He can utilize his body movement, facial expressions and gestures, to strengthen the presentation. By audience response visible to him, by their facial expressions and gestures, he is encouraged and motivated. He has no binding to follow the printed script, so he can make dynamic changes in the presentation and can easily manage the time.

In case of an amateur presenter, the presentation being replay of the script in his memory becomes monotonous. The preparation of script requires number of trials for the written part and then repeated readings to remember the same. It is a long process. The sequence of points may be remembered by some inference but, if some link is missed, the presenter may be confused and lost. Due to this fear, the presenter will not dare to deviate from memorized map.

**IX.8.3 Extemporaneous mode:** This is a smart way of presentation. Here also, if the topic is known in advance the presenter prepares the written script, tries to remember it in general. He follows the map of the script in general but, not mile stone to mile stone. He may take the freedom of deviation from words or lines but, the heart of the message remains the same. He can prove his originality. He can elaborate the points. He can add number of illustrations. The audience may be impressed by and enjoy such presentation. Only seasoned presenter can take such chance. On one side, he maintains the link with the planned speech, on the other hand his thought process continues, adding some dynamic, innovative features to the presentation.

Advantages and disadvantages: As the topic is known in advance, there is an ample scope of referring the material and preparing a good speech, without the time constrain. There is no binding of preprinted and circulated speech. Advance preparation adds to your confidence. You can easily add new points as you wish. The audience will also, be impressed by the originality of the speech. They will listen, appreciate and applaud your good points. Help of one or two transparencies or slides maintains the track. If the audience is of higher level and is interested, more facts and figures can be added. Additional illustrations and quotations can also be added.
As the printed script is not available and use of visual aids is less, for an amateur speaker, there is a problem about confidence, continuity, sequence and consistency.

IX.8.4 Impromptu Mode of Presentation: As you grow, at a higher level, frequently it may happen that you may be invited to a function at a very short notice or you may already be invited but, you are not informed that you will have to speak. Under this condition, you do not know the nature of the event and nature of the audience in advance. After going there, to take advantage of your presence, you are asked to say “two words”. After reaching to higher position, you can anticipate such events and mentally you may be prepared to face them. It may also happen that the chief guest or the president of the function is absent due to some emergency and you are assigned the role. To speak in this condition, is a tough job. If you are really learned, are in touch with current events and current technology, in few minutes, you think about the topic, note down some points in a proper sequence and elaborate them one by one. You also require good imagination. On one side, you go on speaking. Your mind generates the points or details about the points already conceived. When you are given this assignment, for few minutes you may be under some tension but, if you can manage it, it is possible that you come out with an excellent speech. On one side, it can be said that there is no time for preparation. So, you have not prepared anything in advance. But, it requires a lot of preparedness. To speak on any topic at any time and that too as a responsible person, requires life time preparation. Just like students, such persons do not read for examination. At a later age also, they have the quest for knowledge. They read a lot. They keep the eyes, ears, and mind open to whatever is happening around. Only then, you can speak in this capacity, which the audience would like to hear. Real academicians, scientists, technologists, religious and social leaders come in this category. After hearing them, you are convinced that why they have attained that high position in their field of working. Many politicians are fond of speaking on any topic but, some of them cannot justify the topic. Shortly it may be converted to a political speech. Some of the politicians are technocrats and really learned and can justify the topic. The IAS officers have a very good adaptability in this reference. Professors who have a wider band width of subjects in their teaching line and are used to an interdisciplinary approach, can also rise to the occasion.

Advantages and Disadvantages: The organizers know that they have troubled you. Their expectation may be less. Whatever you express will be appreciated by them. Your speech may be independent of the printed and soft material and other speakers on the platform. Accidentally, the audience gets some new thoughts, they may find new direction and dimension in your delivery. They may be thrilled by it. You get the opportunity to express your original views. First few times, you find a
lot of difficulty but, in a long run, you become a proficient speaker and attain high altitudes of your career.

The audience may be unaware about your awkward position. Their expectations may be high. You have practically no preparation time and supporting material or visual aids. You have to think and speak simultaneously. Maintenance of synchronism of the two processes is sometimes difficult. You may miss the track of the speech, there may be frequent pauses. Your speech may be combination of patches. It may suffer from the lack of continuity, proper sequence and consistency. Weightage of subtopics may not be proper. Either you under run or over run the time schedule. Your speech may terminate abruptly, if your ideas are exhausted.

IX.8.5 Class room delivery: The delivery for teaching purpose in the engineering colleges is again, a special class. During the semester, the audience size is decided by the class strength and remains fixed. Except for a new teacher or a visiting faculty, the teacher has the advantage of good familiarity with the audience. The subjects are distributed by the end of the previous semester. The teacher has ample time for preparing the subject. He may be teaching it again and again. The teaching of one subject is usually divided into 40 lectures of one hour each. The course content is decided by the university. The sequence of topics and hourly weightage of each topic is decided by the teacher, under lesson planning. Under each affiliating university, the same subject is taught by a number of teachers. The menu is same. But, the recipe is the mastery of the teacher. That is why some institutes have higher ranking and higher preference, for admission by the students. The institutions are known by their professors.

Each professor may prepare his lecture notes, transparencies and for special topics and lectures, video presentation. Nowadays, some of the presentations of renowned professors all over the world are readily available on internet. Finally, how the lecture is delivered in the class that is important. The first lecture in the semester for the subject should start with the overview and applications of the subject. Here, the scope of coverage being very wide, video presentation may be helpful. During this first lecture, the teacher can check the background and level of the students. If necessary, some topics may be further reviewed. During each successive lecture, first two to five minutes should be devoted to recap, what was covered in the previous lecture. As per the lesson plan, the topic may be covered. For this purpose black board, chalk and duster may be used effectively. For the support of delivery transparency, model, chart, etc. can be used. Along with oral expression, body language and gestures should be used. To keep the students alert and attentive, after 15-20 minutes, some questions should be asked. Interactive sessions are fruitful with matured students, who come with some prior preparation and necessary background. The general lot of students, in most of the
UG colleges, is not so disciplined and responsive for interactive sessions. Near the end of the lecture again, whatever is covered during the lecture should be summarized. If the students have the habit of reading in advance, it is worthwhile to give handouts. It may give only main points. Some teachers give Xerox copy of notes. It is criticized as a spoon feeding. It also discourages the use of books and library. Because, majority of students are examination oriented, instead of knowledge. In our admission pattern, there is a wide variation of first to last student in the class. The teacher has to consider the average mass, as the target audience. Sometimes, teachers are blamed for the poor performance of the students. So, to cross the minimum threshold level of the class, this mode of teaching may be fruitful in our UG engineering institutes.

**Advantages and Disadvantages:** Audience is fixed and familiar, lecture content is well designed. Time schedule is fixed. For class room delivery, the presenter gets some freedom. He can introduce some innovative ideas. The background knowledge is supposed to be attained in the earlier semester. The teacher can use his teaching material and teaching aids, again and again.

There is a lot of variation in the level of the audience. There is no flexibility about the topic and the content. For routine class room teaching, video projector may not be available in all the classrooms. A junior teacher may be compared with a senior professor for the same subject. Teacher is blamed in case of poor performance of students. Some lazy teachers are tempted to use other’s material or same material for more than a decade. The students have to bear with the same teacher for the whole semester, even if he is not performing well. Due to attendance monitoring, some of the students have to attend the classes inspite of their unwillingness. The teacher has also to bear with this lot.

**IX.8.6 Advanced Delivery Mode:** Some presenters can take advantage of the old techniques and the new techniques. Information technology, computers and multimedia have brought revolution in the presentation styles. Management schools, Indian Institute of Technology and other institutes of higher learning, have all the facilities for good presentation. All these technology and techniques are used for the routine teaching. In addition, when their venue is used for national and international conferences and symposiums, the presenters have a rich menu of facilities, which they can use as per their requirement. In the conferences and symposiums, proceedings covering the technical papers are available with the presenter and the audience. The speeches of the chief guests and keynote speakers are also, printed and circulated. This part corresponds to manuscript based presentation. During the conferences, some tutorial sessions or workshops are also arranged. This feature corresponds to classroom teaching. Some speakers in the conferences may be preparing their presentation in a written form, they may be memorizing them. At the time of delivery, the presenter and audience may not
have any reference material. Relying on the memory, the whole presentation may be given. Some presenters follow the main points as per the planning, may use a piece of paper or a transparency or a slide to highlight the main points but, the delivery is free style as extemporaneous mode. Some speakers give informal presentation in impromptu mode without any formal preparation or formality.

Sometimes it is very difficult to put a presentation in one category or the other. The best features and best techniques may be utilized. Inspite of preprinted and pre-circulated presentation, as a procedure many presenters also bring their presentation on CD or Pen drive or it is loaded on the computer memory. Video projector is used to project the presentation in the form of a number of slides. Audio and video, both facilities are used. Audio tracks, visuals, video clippings and live video are used in some part. Nowadays, using these features, the student forums prepare impressive and interesting presentation of their national level student activity. It is shown during the inaugural session. It exhibits the quality and level of the event. For individual presentations also, when all these techniques and technologies are used, the audience finds it interesting and informative. They attend such presentations whole heartedly, listen, understand, appreciate and applaud them. The efforts of organizers and presenters are successful. The audience also gains the maximum. The delivery is very effective. Two dimensional and three dimensional concepts, vector concepts, motions involved, working of running machinery or mechanism can be realized. Virtual reality technique gives the feel of an actual machine or mechanism or movement, which is to be imagined, otherwise. For training sessions of the companies, virtual tour of the plant is possible through such presentations. Nowadays, for approval of the undergraduate and postgraduate programmes and for further continuation of the programmes, such presentations save a lot of time of the visiting team. This virtual visit of the campus, institute, sections and laboratories, exhibits all the facilities and ensures the fulfillment of all the requirements mandatory on the part of new or existing institutes and programmes.

**Body Language and Effective Communication:** In a modern marketing, packaging is equally important, in addition to product quality. Sometimes, poor product can be sold with better packaging and marketing. In hotels and restaurants, the same food may be served at different rates, just due to services and presentation. Similarly, in a presentation the content, coverage and quality are important but, communication is most important. The communication skills and techniques are separately discussed at length in chapter II. Success of communication is not richness of vocabulary but, how it reaches the hearts, minds and souls of the audience. The ears are open willingly or unwillingly but, you have to knock at and open the gates of other sensory systems. Your body language, your facial expression, your eye contact, your gestures, your posture, your appearance, all
these things play a vital role, to make your presentation perfect. As these aspects are covered separately, they are not repeated here.

Questions

1. Explain in detail the importance of presentation, for the students at various levels and the professionals.
2. Explain, how definition of purpose is important in a presentation.
3. Why analysis of audience is important, while preparing the presentation?
4. Why analysis of location is important, while preparing any presentation?
5. What points are kept in mind, while organizing content of any presentation?
6. What is the general format of any presentation?
7. With reference to presentation, explain introduction, main body and sequence.
8. How subtitles, comparison and cause and effect are useful in the presentation?
9. Explain, problem solving, review, design and development, as parts of presentation.
10. Explain results, conclusion or summary and references, as parts of presentation.
11. Why outline of presentation is necessary to be prepared?
12. Why visual aids form an important part of any presentation?
13. What types of visual aids are used by the presenters?
14. What points should be kept in mind, while preparing and using the visual aids?
15. What is meant by nuances of delivery?
16. Enumerate various modes of presentation.
17. Explain in detail, manuscript based presentation.
18. Discuss the advantages and disadvantages of manuscript based presentation.
19. Explain the memorization based presentation.
20. What are the advantages and disadvantages of the memorization based presentation?
21. What is extemporaneous mode of presentation? Explain its advantages and disadvantages.
22. What is impromptu mode of presentation? Explain its advantages and disadvantages.
23. How classroom delivery is a special mode of presentation? What are its advantages and disadvantages?
24. Discuss the features of advanced delivery mode of presentation.
25. Why body language and effective communication are prerequisites, for any good presentation?
26. What is the importance of question answer session, in any presentation and explain how, it should be handled?
Chapter X
Letter Writing

X.1 Introduction

Letters have been the most common form of communication among people, parties and institutions. Nowadays, the technological development has brought a revolution in communication. Telephone, email, SMS and fax have become very popular. People are forgetting the style and art of writing letters. In some of the application areas, letters have maintained the traditional form and importance. They are integral parts of the system.

One purpose of the letters is social. Letters are written to relatives, friends and well wishers. These letters may be routine letters, inquiring and conveying well being of the family members, conveying some good news and greeting on a birthday or an anniversary. Some letters are meant for invitation to some occasion in the family. Lover letters are extensively written by young friends and newly married or to be married couples. The other form of the letters is the official letters. In business, industry, in office and as an individual, there is a lot of scope for this type of letters. They may be written as application, official communication, press note, communication to a university and government offices. In general life, the habit of writing letters is disappearing. But, in business and offices the letter mode of communication can not be eliminated. In telephone calls, there is no evidence of communication. In computerized communication signature, which authenticates the letter, is missing. In official communication, record of communication is important, which makes letter inevitable.

In personal letters, some freedom in style can be taken. There can be a lot of variation in the style from person to person. In technical communication, official communication and business, letters are more important. There is a specific format of writing this type of letters. Depending on a person, a purpose, a business and the office, some variation may be there but, in general, the style of letter may remain same. In the personal letters, there may be some freedom of language, depending on the relation between the communicators. Love letters may be full of imagination, ornamental language may be used, objective may be to praise each other, and may contain a lot of promises. In this reference, the official communication and business letters are in black and white. It can not be made colourful. It may be based on facts and figures. It has to clearly and precisely, state the purpose of the letter. Nobody may be interested in reading essays in the business letters.

Business and official letters may be for different purpose and accordingly, there may be a wide range of variation in these letters. There may be an appointment letter, an appreciation letter, a promotion letter, a termination letter, an invitation
letter, a request letter, an inquiry letter for purchase of equipment, hardware, software, stationery, material or service contract, a letter to a supplier, purchaser, service provider and a leave letter. In technical educational institutes, there may be admission letter, attendance monitoring letter to students and guardian, permission letter to industry for technical visit, project and training letters to industries for placement of students, request letters to industries for job placement of students, letters to university authorities, to examiners, letters to Indian Society for Technical Education and All India Council of Technical Education, letters to government offices, and so on.

X.2 Business Letters

X.2.1 Format of Business Letters

Most of the business letters have the following features.

(i) sender’s details (ii) Receiver’s details (iii) Subject and references (iv) Courteous greeting or salutation (v) core (vi) conclusion (vii) termination (viii) outward number (ix) enclosure (x) details on the envelop.

(i) Senders’ details:
Details of the sender, who is the writer of the letter, are covered at the top right corner of the letter. It includes name, designation and official postal address of the writer, complete with pin code. On the same side, it is followed by date of writing the letter.

    From:
    Prof. (Dr) M. D. Desai
    Electrical Engineering Deptt.
    Institute of Technology,
    Nirma University of Science & Technology
    S.G. Highway
    Ahmedabad 382 482
    15 June, 2013

Most of the offices have their printed letter heads, for the official communication. In this case, the top of the letter has already name of the office in bold letters and bottom margin contain address of the institute, with phone numbers and email address. In this case only name, designation and short address of the writer may be sufficient. It should be followed by the date. Sometimes the sender’s details start with a word “from” at top. But, when the sender’s details are written at top right corner, it is implied and “from” may not be necessary. Some people write senders details at top left corner and immediately start addressing the receiver. In this case, inclusion of “from” at top, gives more clarify.

(ii) Receiver’s Details:
Receiver’s details start, after sender’s details and date. This part is written on left hand side of the page. It includes name of the person addressed, official designation in the organisation and detailed postal address, including pin code. In some cases, the name of the person concerned is not known. Sometimes, it is not sure, whether the same person is on that post or not, in this case the name may be avoided. Designation and other details may be covered. In both the cases, the first line contains a word “To”, followed by receiver’s details e.g.

To
Mr. X.Y. (initial) & surname
Designation
Address
Pin code

(iii) **Subject:**
Sub: Purpose of the letter
Sub: Appointment Letter
Sub: Inquiry for supply of ________
Sub: Invitation as a Chief Guest for __________

If the communication is with reference to the earlier communication by the sender or his organisation, it is mentioned in the reference. The line for the reference just follows the subject line e.g.

Sub: __________________
Ref: Our letter No. NU/IT/MDD/1234 dt. 10/5/2013
The reference code gives idea about the earlier communication. In this case it means that the communication sent earlier was by M D Desai of Institute of Technology of Nirma University. The letter outward no. was 1234 and was sent on dt. 10/5/2013.

The reference may also, refer to the communication from the receiver e.g.
Ref: Your advertisement dt.________ in Times of India
Ref: Your letter No.________ dated..........  
Ref: Your notification No.__________ dt.

(iv) **Courteous greetings or salutation:**
Some letters directly start as follows:
Dear Sir/Madam,
It becomes an official addressing. If you address somebody by name, he or she will be happy.
Dear Mr. Chidambaram,
Dear Mr. Shah
This style gives some personal touch. Instead of passing through a routine official channel in the office, this type of letter may reach Mr. Chidambaram or Mr. Shah directly. The business letters are usually fully typed. But, some senders write the name of the addressee by pen. It gives further personal touch to the letter. In a government communication, they are called D.O. (Demi official) letters. By addressing the addressee by name and writing the name of the addressee by pen (instead of typing), the sender reminds the receiver of the personal relation.

When the letter is written to a very senior person, letter starts as “Respected Sir/Madam”.

After addressing Dear Sir/ Madam, or Dear Mr. Chidambaram or Dear Mr. Shah, the next two three lines are used to convey some courtesy. They are the introductory lines of the letter. For example,

You may be familiar about our institute. It is my pleasure to write you this letter....

(v) **Core:**

The next part of the letter, consisting of one or more paragraphs, forms the core of the letter. It covers the main theme of the letter. Sometimes it may give some idea about the sender party, actual purpose of the letter, actually what is expected from the receiver for a business deal, the associated clauses, other terms and conditions may also, be specified. If it is an invitation letter to the chief guest, this part should cover the details of the actual function. The date, time, venue and target audience should be clarified.

(vi) **Conclusion:**

The next paragraph consisting of two-three lines usually concludes and winds up the letter e.g.

I am sure you will look in to our proposal positively and take a favourable decision.

OR

I once again, request you to consider my application and give me a chance of interview. I promise you that if I am given the opportunity, I will put the best of my efforts to serve your organisation.

(vii) **Termination:**

Finally the letter is terminated by expressing due courtesy, if it is a job application or a letter written to a boss or a very senior person, it is terminated as follows:

  Thanking you,
  Yours faithfully,
Signature of the applicant
(Proper space should be left for signature)
(Name in capital letters or in a legible form)

These lines are written in a right bottom corner. If the sender is also, an equally senior or competent person or at least of the same rank, the letter is terminated as follows:

Thanking you,
Yours sincerely,

Signature of the sender
Name in capital letters or in a legible form
Is followed by designation of the writer or
Official seal or rubber stamp indicating
Designation and office of origin

It makes the letter more authentic.

(viii) Outward number:

In business letters, particularly in government and official communications, there is a tradition of assigning a number to the letter. It is called an outward number of the letter. It is useful in case of the future communication on either side. The sender can quote this number in the future communication, query or a reminder. It establishes continuity of communication. When the other side responds to this letter, it can quote this number at Ref. ______ part immediately after the subject line sub: __________. It helps in correlating the letter with the earlier communication by the sender.

While typing the letter, at the left top corner the outward number is written as follows:
NO. NU/IT/EE/NUCONE/__________

The characters after No. indicate the origin of the letter. Here, NU indicates Nirma University, IT indicates Institute of Technology, EE indicates electrical engineering department, NUCONE indicates that the letter is written in connection with a national conference, called NUCONE. In general, the organisation, its section and subject are specified in short by a set of some characters, separated by slashes. The space available after last slash is used to give serial number of the letter by the dispatch section. The dispatch section keeps record of the letters dispatched on each day in a particular sequence. Checking the last number assigned, the dispatch clerk assigns the next number, records in the register and
enters manually in the space available after the last slash for NO. NU/IT/EE/NUCONE/19. In some offices the dispatch section also marks this part by outward rubber stamp.

IX) Enclosures:

In case of a job application, some documents are necessary. They are attached to the application. At the end of the application, after the signature part, at the lowest left corner, list of enclosures is mentioned.

Enclosures:
(i)
(ii)
(iii)

In an official communication also, at times it is necessary to attach some enclosures in support of the letter or a proposal. These enclosures are numbered and arranged in a sequence mentioned in the list of enclosures.

(x) CC:

In some cases, there is a tradition of marking the copy of the letter to other officers of the receiver company or sender organisation. At receiver end, the other officer may be helpful in the follow up. At sender end, it may be necessary to inform other officers e.g. when somebody applies for a teaching position in a private university, he addresses the executive registrar but, copy may be sent to the director of the institute and head of the department concerned. When a university appoints the faculty, the candidate gets the appointment letter from the university, copy of which is marked to the director of the institute, head of the department and account section. It may be marked as follows.

Copy to or CC
(i) .............
(ii) ............
(iii).......... 

With this part of the letter, internal details of the letter are over, except some external formality.

(xi) Details on the envelope:

The application or a letter along with enclosures is kept in an envelope of required size. It is securely closed, with a gum or an adhesive. The letter may be sent by ordinary post, a registered post, under certificate of posting, or by courier. In case of registered or a speed post or a courier, at the top of the envelope, it is marked as “Registered Post” or “Speed Post” or “By courier”. Depending on the
weight, necessary postal stamps are sticked. On central part of the envelope, address of the receiver is written or typed.

To
Name of the receiver in full
Designation of the receiver
Name of the organisation and complete address with pin code

Left bottom corner contains name and address of the sender
From:
Name, designation, address of sender

Some more points about the business letters:
- They are usually written / typed on plain, white paper, without lining, of fullscape A4 size.
- Official letters from the organisation are usually sent on a printed letter head.
- There is a tradition of keeping a copy signed by the forwarding officer, as an office copy (o/c) with an outward number and date marked by the dispatch section. It helps in the future communication.
- The language of the letter is decided by the addressed person or group. Most of the business letters are written to personnel or HR department. This type of letters should be written in simple, self explanatory form. Technical jargon should be avoided.
- The official or business letters are usually typed by the office assistant. Proof reading and correction are very much necessary. During typing, some words or lines may be missed, some words may be misspelled, which may distort the meaning, date month and years may be wrong. Depending on the level of the sender and a receiver, proper addressing should be done. These points should be thoroughly checked. When the forwarding officer is a very senior person, he can not go in to all these details but, the middle ranged officer, who drafted the letter should check the letter thoroughly, make necessary corrections and put his signature in a left hand margin of the office copy. So, in a big office, when the query comes, it can be directed to that person. In some big offices, the typist also marks his identity by initial characters of his name e.g. abc, kbc, etc.
- In person, if you speak anything nonsense, abusive or threatening language, it is not recorded. Of course, it is not a decent practice. Written correspondence results in a documented record. One should be very particular about it. Whether you are a purchaser or a supplier, an employer or an employee politeness is necessary at all levels.
• In an official communication, when a person is at a receiving end and writes to the controlling officer or an employer, extreme politeness is expected. Some persons write as follows:

I want to go on leave for a week from............. The better way is as follows:
I have some function in the family. My presence is necessary for the same.
I request you to consider my leave application favourably.

Some people directly start with complaints in the letter. The better way may be:
I would like to draw your kind attention to the following points...
With your kind permission, I would like to state that ...........
I may please be granted the permission for....... 

In case of dispute due to earlier communication, the clarification can be given as follows:
With reference to my earlier communication, I would humbly like to clarify as follows:
........... I beg your pardon for the misunderstanding due to my earlier communication. I am extremely sorry for the same.

Even in a resignation letter goodwill should not be lost.
Due to my family circumstances/transfer of my spouse/very good opportunity with a multi-national company, I had to take the decision of this resignation. It was my pleasure to work for this organisation. I have learnt many good things from an experienced boss like you and I am really groomed by this organisation. It would be my pleasure to extend my co-operation for this organisation in future, also.

X2.2 Sample Business Letters
There is a very wide variety of business letters. Only some of them can be highlighted here.

X2.2.1 Letter of complaint:
When some equipment is purchased and installed at the premises of a user, it is possible that the performance may not be satisfactory. Some parts or whole of the equipment may be out of order. For the sales and service or after sales service, the companies have a customer care department. In case of a problem with the equipment, there is no sense in writing to the general manager or a managing director or a chief executive officer (CEO) of the company. Even if written, sometimes it may be directed to the concerned department. It is advisable to communicate directly with the customer care department, to save time and efforts.

As usual, the letter should start with the name and designation of the sender, followed by date of issue of the letter. Next will be the name (if known) and
The next paragraph may give background of the purchase of equipment and the nature of problem.

The Next paragraph may mention about guarantee period or annual maintenance contract or charges for the repair. When the equipment is purchased, the companies give guarantee/warrantee of one or two years during which the supplier is bound to repair with some conditions. Some parts are guaranteed to be replaced free of cost and some parts with cost. Service may be free or chargeable. In big organizations, there are annual maintenance contracts (AMC) for certain items like computers, water coolers, air conditioners, etc. Usually, after guarantee/warrantee period, such maintenance may be done by agencies, which may not be original supplier of the equipment. In case of chargeable maintenance either the order may be given directly or cost estimate for the maintenance may be asked.

The letter ends with, thanking in advance with common courtesy and giving name, phone number and email address of the person to be contacted. Finally the letter is terminated by signing with name and designation. Official rubber stamp/seal may be marked. If necessary, copy of the letter may be marked to other persons.

Sample complaint letter is as follows:

Head of Instrumentation & Control Department
Institute of Technology,
Nirma University
SG Highway, Ahmedabad
382482
11 April, 2013

To
Mr. A.K. Rao,
Head Consumer Care Division,
T & L Company
Race Course, Baroda.

Sub: Maintenance problem with Flow Control System
Ref: Our purchase order No.IT/NU/IC/PO/19/dt. 10/1/2013
Dear Sir,

We have started a new laboratory with various computerized control systems. Earlier, we have purchased computerized pressure and temperature control systems from your company. Vide above reference, we have purchased a computerized flow control system from you. It was successfully installed in our laboratory on 15th March.

Recently, during the laboratory experiments, some problem is reported. The pump for the system is not working. As the semester is in the final stage, please, send your service engineer at the earliest, so that the students will not suffer.

It is surprising to have this type of fault in the first quarter of the one year guarantee period.

Thanking you,

Yours sincerely,

Signature
Professor & Head
Instrumentation & Control Engineering

X.2.2.2 Letter of Inquiry

All offices, educational institutes and industrial organizations, have requirement of different types of material, hardware, software and equipments. Stationery and other material requirements are identified on the basis of past experience. If there is any expansion plan, it should be kept in mind. For equipments, hardware and software the different sections may propose their requirement in the budget planning meeting. Depending on the overall requirement of the whole organisation and availability of the funds, the budget for the next year is planned. The type and quantity of materials, equipments, hardware and software to be purchased are finalized after the budget meeting. For the recurring requirement of materials and consumable components, sometimes government and technical educational institutes make rate contract with some suppliers. So, every time the inquiry about rates is not necessary. The order can be placed directly. Chemicals for the chemistry laboratory, stationery, computer peripherals, etc. are usually purchased like this. For a major equipment and software items, the purchase inquiry may be floated by the concerned department or the central stores department. Before floating the inquiry, the detailed specification and quantity of the equipment or software to be purchased are finalized.

Sample Inquiry Letter

Head of Electrical Engineering Department,
Institute of Technology,
Nirma University,
Ahmedabad 382482
16 June, 2013

To,
The Manager,
Marketing Division
** Name of the company,
Postal Address

Sub: Purchase of cycloconverter

Dear Sir,

You may be known to you that our institute is growing very fast in the field of technical education. We are in the process of developing a post graduate laboratory for our Power Electronics Programme.

We require a cycloconverter with the specifications given in Appendix. Please quote your price, mentioning the basic price, taxes applicable, forwarding and packing charges if any, delivery period, payment terms, warranty period, inspection terms, etc. Last date for receiving quotation is 15 July, 2013.

Give your detailed specifications, along with make and model. Send your detailed technical literature including photograph. If you are a trader, please, attach a letter, indicating that you are authorised agent of the principle manufacturing company for the cyclo converter. A list of your esteemed customers for the said item or similar items is expected with the proof. If ordered, predispatch inspection is necessary.

The technical specifications may be sent in an envelope marked “A for cycloconverter”, and commercial terms may be sent in an envelope marked “B for cycloconverter”. Both the envelopes should be put in a large envelop marked “cycleconverter” due on 15/7/2013. For any further query, contact the undersigned.

Thanking you,

Yours sincerely,

Signature
Head of Electrical Engineering
Department
(** the inquiry letter along with appendix is sent to all the suppliers and manufacturers of the said item. The list should be prepared in advance and competent parties should be identified by past experience)

Appendix

Specifications of cycloconverter are to be mentioned.

X.2.2.3 **Complaint, Claims and Adjustment Letters**

Each organisation has to purchase large many items, equipments, computers, hard ware, soft ware, etc. for its requirements throughout the year. Some of the purchases may be one time purchase and some items are purchased on a regular basis, every year. In this process of purchase, there may be number of problems or issues, requiring further follow up. For the customer, there are number of issues, requiring correspondence with the supplier. They may be in the form of a complaint, claims letter or follow up letter.

- Out of the ordered items, the supplier supplies only some items and some items are left out. It is called a part delivery. In case of rate contract, it usually happens that the supplier supplies the items, in which he finds profit and where the rates have increased from earlier agreement, he may not deliver the consumables.
- For major equipment installation, demonstration and/or training may be committed by the supplier. It is necessary to fix up the dates for installation, demonstration and training.
- At the time of inquiry and order, the date of delivery of goods is specified. If the supplier does not supply the goods in time, reminder may be sent and the party may be reminded about the urgency of goods and penalty clause.
- The equipment/material received may not be matching with the specifications, agreed upon.
- The make, model and quality and quantity of equipment/material may not be matching with the order.
- The material/equipment is required to be delivered to a particular branch/site of the organisation but, is delivered to other address.
- During transportation (delivery) the equipment/material is damaged mechanically, by rain or by some other reason.
- While ordering, depending on quotation/invoice the principal cost, taxes, insurance, packing and forwarding charges, discount etc. are agreed upon mutually. But, the actual bill sent, may have some mistake in calculation.
- Before order, some sample may be shown or some model is agreed up on. The actual goods may be different.
- Even after reminders and extensions, if the party crosses the limit of late delivery with penalty clause, the order may be finally cancelled.
In case of an annual maintenance contract, number of visits per week or month and maximum down time may be specified. In some cases, for excessive down time, the supplier is required to provide substitute of equipment, to avoid production loss, service interruption or upset of teaching schedule.

In case of sales and service or maintenance, sometimes the customer is not satisfied with the technical skill of the service personnel, there may be problems about irregularity, rude behavior or honesty and integrity of the service staff may be doubtful.

In all the cases, it is necessary to communicate. The communication should be addressed to a proper person, at proper place. Other modes of communication like phone, email, Fax may be useful but, written communication is also necessary. In buyers market, customer is the king. He has the right of complaint but, he has to maintain dignity of the other side. Whether the letter is addressed to a junior person or a very senior person, some basic courtesy should be maintained. In most of the cases, both the sides have to work together for years to come. When the complaint is lodged, the sales executive of the company may not be aware about the origin of the purchase, delivery and problem. The complaint letter should give the necessary cross references for the purchase and should define the problem in a self explanatory form. Otherwise, seeking clarification will waste a lot of time of both the parties.

Such communication should be prompt. It should be substantiated with actual details. The problem may not be intentional, it may be incidental, due to some accident or mistake on part of some person involved or it may be due to unforeseen circumstances. The letter should not be in the form of allegations based on distrust.

If the complaint letter carries details about invoice/quotation, order no. and date, delivery date, date of installation, persons involved, etc. it will be easy for the otherside to establish the context of the complaint. The problem of delivery or installation should be well defined. The seriousness of problem, urgency, inconvenience, loss of production, disturbance of erection schedule or upset of teaching schedule should be clearly explained. Without insulting, request the supplier to maintain high traditions of regularity, responsibility, past relations, market reputation, etc. The corrective action to be taken by the addressee should be clearly reflected in the complaint letter. Do not suggest the solution which is practically impossible.

After receiving the letters of complaints or claims from the customers, the supplier has to solve the problem. The communication required at supplier end is called adjustment letters. The actual solution of the problem may take some time but, prompt reply to the complaint or claim letter is necessary to maintain
longstanding relations, goodwill, trust and reputation of the organisation. If these letters are handled properly, they strengthen the bond with the customers, make the relations friendly and contribute to prosperity of the company. After sales service, and follow up are more important and fruitful in a long run than the sales expansion. The challenge of complaint should be converted to opportunity. With a full trust on customers, the claims should be understood and dealt with cautiously. Analysis of complaint and identification of internal or external problem may help in minimizing future problems.

There are various possibilities of the origin of complaint by the customer. The poor quality of goods or equipment may be due to poor quality of raw material, poor tolerance in production process, carelessness on part of some workers, poor maintenance of manufacturing machinery, poor inspection, etc. Such problems should be handled trickily. The outsiders should not be informed about the internal problems. It spoils the company reputation. In case of such internal problems some times, similar complaints are expected from more than one customer. In batch production, it is advisable to withdraw the goods manufactured in that batch to sustain the reputation of the company. If the supplier is a trader company of goods, it should draw the attention of the principle manufacturing company. If the goods could not be supplied in time, due to strike at the company, the customers can be taken into confidence. If the goods are damaged in transit, the packing should be improved. If the damage is due to carelessness of the transporter, his attention should be drawn. If possible, transit insurance should be taken. If the delay of delivery is due to transport, it should be clarified and for future commitments, necessary margin should be considered. While taking the orders, the manufacturing schedule and normal stock should be considered. If the problem is due to common, external strike it can be clarified. If the product depends on some imported components and delay is due to that, it should be clarified and for future manufacture, advance planning should be ensured. If the price variation is due to sudden change of tax policy by the state or central government, it can be defined accordingly. In case of installation or training complaints, the revised dates should be fixed immediately. If the poor performance is not due to the quality of the supplied goods but, due to improper working condition at the customer end or improper working experience at the user end, competent technical staff should be sent to identify the problem and guide the customer. In such cases the misunderstanding should be clarified at the earliest, to safeguard the interests of the company. While dealing with the complaints, the size of business with the customer and its standing in the market should also be considered.

Instead of short term loss or gain, long term gain and business should be kept in mind. In the worst case, if the claim is not valid, it can be rejected. Consideration
of all above factors will help in drafting the replies to complaint and claim letters. The following points may be helpful.

- The reply to claim or complaint letter will start with the reference number of the claim or complaint.
- It is not advisable to contradict the customer directly.
- The customer should be appreciated, to draw attention to the irregularities.
- Feeling of regret for the inconvenience should be expressed.
- The root cause of the problem can be mentioned, if it is not spoiling the reputation of the company and not adversely affecting the business in general.
- The line of action for the solution of the problem should be high lighted. If may be with reference to the present problem and avoiding future problems.
- The customer should be assured about the faith of the supplier in him but, if there are any lapses on the customer side, they can be mentioned trickily.
- The customer should be guided about precautions and proper handling of equipment for best performance.
- If some maintenance contract or periodic servicing of the equipment is necessary, the customer should be guided accordingly.
- For proper handling of equipment, detailed instruction and operating manuals should be supplied with the equipment.
- In case of specialized equipments, the supplier should ensure free or paid training for the users, to avoid future problems and maintain healthy relations.

Sample Adjustment Letter

Sales Executive,
Modern Instruments,
GIDC Electronic Estate,
Gandhinagar
19th April, 2013

To,
The Director,
BR Institute of Technology,
Opposite Vaishnodevi Temple,
S G Highway
Ahmedabad 382 482

Sub: Supply of Electronics Instruments.

Dear Sir,

We have received your above referred letter dt. 10/4/2013.
We are highly thankful to you for placing an order worth rupees five lakh for various electronic test and measuring instruments vide your letter No. BRI/EE/EC/15 dt. 30/1/2013. Out of this order for 15 items, we have already procured 14 items. For the item, sr. no. 10 oscilloscope, we have placed order with M/s. Techtronics, Bangalore. Due to recent strike by the truck operators, the dispatch of this oscilloscope was delayed. We have received a message from the company that now they have dispatched the same. We are hopeful of getting it in three days. After initial checking at our level, we promise you to procure it at your premises by the end of this week.

The delay has been due to unforeseen circumstances beyond our control. Please, bear with us. I hope this single incidence should not come in way of our future dealings. It is our pleasure, to work for a new, upcoming educational institute like yours. After getting this last item please, clear our bill at the earliest.

Thanking you,

Yours sincerely,

Signature
Sales Executive

Repair Request Letter:

Pant Enterprise,
Gandhi Road,
Ahmedabad
14, April, 2013

To,
The Managing Director
Mashibus, GIDC Electronic Estate,
Gandhinagar.

Sub: Repair of LCD Projector

Dear Sir,

We have received your LCD projector along with above referred letter. We have just supplied you the said projector in the month of March. I am surprised to learn that it is not working properly. As per our guarantee, we accept our responsibility to repair the same. Our maintenance department has already done the diagnosis. As we have to get some components from our principals at Bombay, the whole process may take about ten days.
I understand your urgency, as you have a foreign delegation on 20th April. We are arranging another LCD projector for you, for the time being.

I assure you that as soon as we receive the spares, the original projector will be repaired and sent to you. After sales service, is our main strength and we ensure you the same at any cost.

Thanking you,
Yours sincerely,

Signature & Name
Sales Executive

Regret Letter

To,
The Director,
Institute of Technology
Nirma University,
SG Highway
Ahmedabad 382482

Sub: Inquiry for Computerised ECG Data Acquisition System
Ref: NU/IT/IC/BMI/24 dt. 1/4/09

Dear Sir,

Thank you very much for sending the inquiry for the computerized ECG Data Acquisition system. I regret to inform you that we do not deal with the said item.

Anyhow, we are thankful to you for keeping us on your purchase mailing list. The catalogue of our products with budgetary prices is enclosed herewith. It would be our pleasure, to supply our equipments for a renowned institution like yours. For education purpose we can consider good discount also.

Thanking you,
Yours sincerely,

Signature & name
Sales Manager
Acceptance Letter for a National Conference

NUCONE 06 (30 NOVEMBER – 2 DECEMBER 06)
National Conference on Current Trends in Technology

To
Name of Author
Address

Sub: Acceptance of paper for NUCONE 06

Dear Author,

With reference to the above, I am pleased to inform you that your paper* has been accepted for our National Conference on Current Trends in Technology NUCONE 06: 30 Nov – 2 Dec. 2006.

<table>
<thead>
<tr>
<th>No.</th>
<th>Theme/Branch</th>
<th>Title</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You are required to comply the following, as applicable (if not done earlier) at the earliest.

- Paper is not as per specified format. Please follow the format available on our official website.
- You are required to send two camera ready copies as per specified format in the brochure/website and soft copy of the same on email address corresponding to your branch/theme.
- Your paper is too lengthy please reduce it to four or five A-4 size papers.
- You have not mentioned the references. Please mention the same.
- Your diagrams/graphs are not visible. Send them drawn on a separate sheet drawn clearly with black ink and soft copy of the same in Black and White.
- References should appear at proper place by number in the text.
- You are required to make necessary corrections in the paper as suggested.
- You are requested to register by the specified date, with specified registration fee, by a demand draft in favour of “Institute of Technology, Nirma University” payable at Ahmedabad.
Outstation cheques are not acceptable.

Without registration by author(s), paper will not be considered for presentation and inclusion in the proceeding.

Only non-sponsored students are eligible for registration fee under the student category, subject to certificate from the head of the department/institute.

QIP and other research scholars on deputation from R&D or academic institutes have to register at higher rate (not student category)

On request basis, accommodation can be arranged in hotels/hostels/guest houses as available on payment of corresponding amount for necessary days per head, along with registration fee in advance, mentioning range of accommodation and days required.

Some of the accommodations, available on the dates, along with tentative tariffs are listed on the website. To and fro transport, for these sites may be arranged, if reasonable number of delegates will be there.

Hotel tariffs are mentioned for general information. Payment including taxes, service charge, change of tariff, etc will be dealt with by the delegates with hotel management. Organisers only help for accommodation.

After 15/9 higher registration fee applies.

After 15/9 it may not be possible to entertain accommodation request. So, there is no accommodation assurance for late request.

Detailed programme will be conveyed to you later on.

Before coming, you should convey your travel plan.

List of accepted papers is also put on the website.

Registration form is attached herewith and is also available on the website.

A number of invited lectures by renowned people in the field are being arranged. So, it will be a very good experience.

Awaiting your early response and looking forward to your active participation in the conference proceedings.

With warm regards

Prof. A.B. Patel                                           Dr. M.D. Desai
Chairman, NUCONE 06                                     Organising Secretary
X.2.2.5 Invitation letter to a keynote speaker

Dr. M.D. Desai
Organising Secretary,
NUCONE 06
Professor of Instrumentation
& Control Engineering
Institute of Technology
Nirma University of Science
& Technology
S G Highway, Ahmedabad
382 482
30 October, 2006

To
Mr. Chandra Mohan
Managing Director
Punjab Tractors,
Chandigarh.

Sub: Key note Speaker : NUCONE 06

Dear Sir,

You may be familiar with the name of Institute of Technology, Nirma University of Science & Technology, a fast upcoming institute, imparting quality education, in this part of the country. It is going to arrange, its first multidisciplinary National Conference on Current Trends in Technology (NUCONE 2006) during 30 Nov – 2 Dec. 06. During this conference, more than 150 technical papers will be presented by M.Tech and Ph.D. research scholars, academicians, scientists and experts from the industry of various branches of engineering, from all over India.

With special reference from Dr. P.N.Bhagawati, it is my pleasure and privilege to invite you to grace the inaugural function on 30 November at 10.00 a.m. as the guest of honour and deliver a keynote address on

Total Quality Management in Engineering

I am hopeful that you will accept this invitation, to share your experience and expertise. Your presence and presentation will enlighten the delegates and encourage us, in our endeavour to achieve technological excellence.

Thanking you,
Yours sincerely

Signature
Prof. (Dr.) M.D. Desai
Organizing Secretary, NUCONE 06

c.c. to: Dr. P.N. Bhagwati
Bhagwati Pherocast, Ahmedabad.

X.2.2.6 Invitation Letter to the Chief Guest

Director,
Institute of Technology,
Nirma University,
SG Highway,
Ahmedabad 382 482
26 Jan, 2009

To,
Mr. Y. P. Buch
Senior Vice President
Instrumentation Division
Reliance Refinery,
Moti Khawadi,
Jamnagar.

Sub: Invitation as Chief Guest : Technofera 09

Dear Sir,

We are committed to all round development of the students. For this purpose, we have student forums of various branches of engineering. They keep the campus humming with technical and semitechnical activities, through out the year.

International Society of Automation (ISA) is the largest professional body of instrumentation and control engineers, all over the world. For more than a decade, we have an active students’ chapter of ISA at our institute. Technofera is a national level mega-technical event of the chapter, arranged every year by the chapter.

As briefed telephonically by Prof. (Dr.) M.D. Desai, the ISA students’ chapter is bringing a beautiful basket of technical activities in the name of Technofera 09.
It includes paper presentation, project competition, Robotic workshop, technical quiz competition, robo warfare, software competition, management game, etc. The event is expected to attract more than 300 student delegates of various branches of engineering from colleges all over India. The brochure of the event is enclosed herewith.

It is my proud privilege and pleasure to invite you to inaugurate Technofora’09 as the Chief Guest, on 13th Feb 09, at 10.00 a.m. on our campus.

I request you to accept this invitation to be the chief guest, inspire and motivate the engineers of tomorrow, by your inaugural address.

Thanking you,

Yours sincerely

Signature & name
Director IT, NU

Enclosure: Brochure of Technofora’09

X.2.2.7

Appointment Letter

Manager HR Department,
Project Division,
World Techno projects
Aklapuri,
Baroda
1st Jan, 2013

To,
Mr. S K Jain
Goyal towers,
Judges Bunglow Road,
Vastrapur,
Ahmedabad 380015

Sub: Appointment as Project Engineer

Dear Mr. Jain,

With reference to your interview on 23 December 2012, for the post of project engineer with our organisation, I am pleased to inform you that you have been selected as the project engineer.
You are required to report to our Baroda office latest by 15th January’13. For one year, you will work as a trainee project engineer on a consolidated salary of Rs.25000/- per month. On successful and satisfactory working for one year, you will be absorbed as a regular project engineer with a basic of Rs.25000/- p.m. plus DA, HRA, Medical allowance, conveyance allowance, etc.

Please, report with in the specified time limit along with original certificates mentioned in your application. For any further query you can contact the undersigned.

Thanking you,

Signature & name
Manager, HR

Questions

1. What are the different purposes, for which letters are written?
2. Inspite of electronic mode of communication, why letter writing is still necessary?
3. Mention the general features of any business letter.
4. Explain how sender’s details are covered in any business letter.
5. Explain how various details, at the sender end are covered in any business letter.
7. Explain courteous greeting with reference to business letters.
8. How core of a business letter is utilized?
9. How the business letter is concluded?
10. How the business letter is terminated?
11. Why outward number is useful in any business letter? Explain the significance of various characters in an outward number.
12. Why copies of business letters are marked to other persons? How they are indicated in the business letter?
13. Explain the necessity of enclosures, in case of a business letter.
14. What are the necessary procedures and details on the envelope of a business letter?
15. Mention some general points and precautions, necessary for business letters.
16. What is the objective of a letter of complaint?
17. Write a complaint letter, for maintenance of an airconditioner in the office of a private consultant.
18. Write a complaint letter from the office of a principal of an engineering college, to a supplier, who has supplied assembled computers of lower quality.
19. Write a complaint letter from the Director of an engineering college, to a software supplier, for not supplying the Matlab software within specified delivery period. Remind him, about the penalty clause or some penalty per week for late delivery and cancellation of order beyond over delay of more than six weeks.

20. What is the general necessity of inquiry letters?

21. Write an inquiry letter for the purchase of a “Water Treatment Plant” required by a small chemical industrial enterprise.

22. Discuss in detail, the various purposes for which complaint, claims and adjustment letters are required to be written, by various organisations.

23. A manufacture of power electronics drive has supplied a 25KW drive to an industrial organisation. Ninety percent payment was released on supply of the equipment. Remaining ten percent was required to be released on successful installation and demonstration, which is over. Now, write a letter from the manufacturer/supplier to the receiving company to clear, balance ten percent amount.

24. A newspaper company had ordered stationery from its regular supplier. The delivery of stationery due on 1st of this month is not complied, due to strike of transporters. Write an explanation and assurance letter from the supplier to the newspaper agency.

25. A private hospital has invited quotations for x-ray machines. A company has received the inquiry but, is not dealing with x-ray machines. Write a letter thanking for the inquiry and regretting for inability to quote.

26. You are selected by L&T as an executive trainee in engineering division. Write an acceptance letter, indicating date of joining.

27. You are working as a private technical consultant. You are shifting to a new office. Write a letter inviting chairman of some industry to inaugurate your office.

28. Write an invitation letter to a national level technocrat/scientist to deliver a key note address, during the inaugural session of a national conference organized by your organisation.

29. From the office of the Director of Technical Education of the state, issue an appointment letter for a professor in computer engineering, at some government college.

30. Your paper has been selected for some national conference. In response to the acceptance, send a letter of thanks and inquire about accommodation and transport arrangement.
CHAPTER XI
JOB APPLICATION

XI.1 Introduction:

In various industries and organisations, there is a requirement of managerial technical and non-technical staff. This requirement maybe maximum, when the organisation is starting for the first time. For a running organisation, in case of some expansion or a new project in hand, there may be a major requirement of staff at various levels. There are various modes of employment for this purpose. Some of the organisations advertise and recruit directly. Earlier, this job was done by personnel department. Nowadays, the work is done by human resource (HR) department. Some companies outsource the work of recruitment to private recruitment agencies on behalf of their companies. In any case, the advertisement may be published in local, regional or national level newspapers, depending on the size of the company. Nowadays, the advertisements and announcements are through internet and websites, which has a global access. It increases opportunity as well as competitions. The government departments recruit through state and national level public service commissions.

In most of the cases, the printed application forms may be available free or on payment basis, from the concerned office or it can be downloaded from the website of the organisation. For the government jobs, along with the application form, postal order of specified amount payable to specified agency is required to be sent. In case of a printed or a soft copy of the application form, the candidate has to fill up the details at specified columns. He has not much freedom. For additional information, extra sheets can be attached. The application form should be signed by the candidate and supported by copies of necessary documents. The application should be sent by registered post and Xerox copy should be retained by the candidate. For internal candidates, in government and semi-government offices, it is necessary to apply through proper channel. The candidate has to apply through the local controlling officer. An extra copy is marked for the local controlling officer. He forwards the application further, with his remarks. In government and semi-government office and sometimes in private too, no objection certificate is required from the present employer. Without this, the new employer may not consider the application and the present employer may not relieve the candidate.

Curriculum Vitae (CV)

When a person applies for a job or admission for higher studies, the specified application form is accompanied by a resume or curriculum vitae. The resume is
usually very short but, curriculum vitae (CV), is much detailed. It runs for large number of pages, to include lot many details. It also covers personal details and experience.

Resume
Resume is just not your background, qualities and achievements. It should reflect your personality, to ensure interview call. If the resume is limited to one or two pages and carries different titles, fast screening is possible by the scrutinizer. It should cover important information on priority basis. It should match the requirement of the employer. White, A4 size plain paper should be used. Avoid unnecessary information. Resume should be typed.

- Decide what will be relevant for the job.
- Decide general structure by identifying the important heads of items like personal details, academic record, experience, achievements, special skills and expertise.
- Arrange topic heads, in a proper sequence.
- Give details in each head.
- The resume should be properly checked. Spelling and grammatical mistakes create a very bad impression.

XI.2 Contents of Resume:

Personal details: Full name (first name, second name and surname), Address, phone number, email address.
- Sex : Male/Female
- Age :
- Caste :
- Nationality:
- Religion :
(In India sex, age, caste, nationality and religion are part of the specified format. In advance countries, these points are considered as discriminatory features and are avoided or discouraged. Depending on the company and location of the company, one can use individual discretion, to include or exclude these details).

Educational Qualification: It may start with the highest degree or recent degree. Usually, along with the degree, the name of the university, year of passing and class or grade point are covered.

Achievement: It includes gold Medal, Award, special recognition, etc.
Skills: It includes knowledge of computer language, familiarity with special software or tools like Matlab, Cadence, ZynLink, Etap, Network, etc.
Training: If some training at industry or other organisation is taken, it can be mentioned.
Project: UG project, PG project, Ph.D project can be covered.
R & D and Consultancy: Only research and consultancy assignments can be highlighted.

Publications: Only number of papers published at national and international level may be mentioned.

Some precautions for a Resume:
- Lined or coloured paper or non-standard size of paper, should not be used.
- It should not be handwritten.
- Typing on both sides should be avoided.
- It should not be more than two pages.
- Xerox copy of resume should be avoided.
- Do not write irrelevant details.
- Do not cover very old information.
- Instead of writing paragraphs, use bulleted points.
- Employment record should be continuous and consistent.
- Do not blame the present or previous employer.
- Do not show your impatience to leave the present job and join the new employer.
- The resume should be attractive by content and appearance.

Generally job experience and qualification are covered in a reverse chronological sequence in a resume. In case of a structural resume, depending on job requirement and position, the candidate may concentrate on and club the relevant experience specific details. It will help him to prove his competence for the nature of the job and specific position.

XI.3.1 Curriculum Vitae (CV)

In case of a resume, generally the content is limited to two pages. It only highlights the main points. The details may be avoided. Curriculum Vitae (CV) is usually extensive. For a fresh graduate, the information to be covered may be less but, for a senior, experienced professional, there is accumulation of a lot of information. Depending on the nature of the job and industry also, some more information may be involved. The length of a CV is usually more than two pages. In some countries, resume and curriculum vitae are considered same. Actually there is a small difference between the two. Resume is more useful for a job in an industry or a private sector. Depending on the job and industry requirement, the candidate may add or delete or modify some information. It is somewhat flexible. The resume is in the form of a short summary of the career, where many things be omitted or highlighted, without details. As the resume is employer and employment specific, the strength related to that job maybe given more weightage. Sometimes, the candidate may state his personal goal and ideology in a qualitative form.
Curriculum Vitae, on the other hand, may be exhaustive. It covers full details about the candidate, without missing any details. The format is almost standard. Some countries have developed their format with reference to migration. For employment purpose, the advertisement in a newspaper and getting hard copy of applications is a costly and time consuming process. If the requirement of a particular type of personnel is displayed via internet and if resumes or CVs are also collected through internet, the process is fast, cheaper and effective. In an online application, the signature of the applicant is missing. It lacks authentication. Somebody can apply on behalf of the other person. Of course, with scanning and password the problem can be solved, indirectly. If the format is standardized, it is also easy to scrutinize large number of applications.

XI.3.2 Structure of a CV

- It starts with the title “Curriculum Vitae” in a bold or capital letters.
- **Personal Details:** Complete name, in the form of the first name, second name and family name or surname is the last entry. In some parts of India, the second name is father’s name. In northern India, the second name is usually extension of the first name e.g. Kumar in case of Rakeshkumar or Lal in case of Makhanlal, Sinh, etc. The name should be typed in bold or capital letters. In some cases, before name Mr/Ms/Mrs/Dr is written. The name is followed by address. Some people mention temporary and permanent addresses separately. Sometimes, office and residential addresses or address for communication are mentioned separately. It may ensure reliability of postal delivery. It further includes landline phone number with local, national and international code, mobile phone number; and email address. Official and personal both email address are mentioned.
- **Photograph:** In most of the cases, photograph may not be necessary. For admission purpose, national/international employment, immigration, passport and visa purpose, if specified, photo should be attached.
- **Age:** Years Months, Sex: Male/Female
- **Marital Status:** Married/Unmarried
- **Caste:** Religion:
- **Nationality:**

In Indian organisations, state and government office application forms, such columns still exist. In line with that, these details may be covered optionally. At international level age, sex, marital status, caste, religion, and nationality are considered as discriminatory features. To avoid legal complication, they are discouraged or omitted from the application forms and CVs in many cases.

- **Job Seeker:** The CV is identity of the individual. The beginning of the CV should be such that the otherside is tempted to go through it. The CV should be successful, at least to lead you to the interview table. For this purpose the CV
can be started with the strengths of the job seeker. It follows the personal details. It may prove the competence of the person concerned.

- **Skills:** By experience, training or qualifications, some special skills may be developed by an individual. The special skills can be covered here. Some skills are job specific. Earlier, for a clerical job, knowledge of typing and typing speed in words/minute was considered important. Knowledge of shorthand was also important. Nowadays, familiarity with use of computer, fax, Xeroxing, internet, intranet, email, websites, etc. is very important for e-communication. For a marketing job, communication skill is important. For technical persons, familiarity with branch specific dedicated software tools becomes an important skill. For a senior position, managerial skill is necessary. In purchase department negotiation skill is necessary. In any job, at any position, dealing with the people of different types and levels is necessary. For a lawyer logical convincing is necessary. For a teaching job teaching skill and research aptitude are necessary. For technicians, skill in specific trade required. If somebody has mastered some skill, it is his asset and he can prove to be the asset for the organisation.

- **Experience:** Due to the globalization and out sourcing, a lot of opportunities are available. A lot of mobility is observed. Youngsters usually change a number of jobs. At senior level, a person may have rich experience to his credit. The experience may be in different companies and in different capacities, with different responsibilities. The experience is mentioned in a tabular form. It includes the name of the organisation, the position and the dates of employment (from____ to____). Usually the experience is stated in a reverse sequence. So, if somebody is interested, only in recent experience, it can be referred accordingly. Naturally the current job may be on the highest position or with highest salary. The responsibilities handled at present may be specified. In case of a very long career, more than twenty or twenty five years, the earlier part may be clubbed and covered in short and the recent part may be covered in detail.

- **Achievements:** In a long career, a person may get some good opportunities to work in different departments in different positions. He may make some remarkable contribution or improvement or innovation. It can be covered in the career history. His services may be appreciated by some certificates, rewards or felicitations. It is his achievement.

- **Education:** Starting with the highest degree the educational qualification is mentioned. It includes the Ph.D, post graduate and bachelor degree in engineering, management or in any other faculty.

- **Competitive Examinations:** If the candidate has covered some competitive examinations for study, admission or job purpose that can be mentioned. It may be GRE, GATE, GMAT, CAT, TOEFL, UPSC, IPS, IRS, etc.

- **Training:** On job, as per the requirement of the job or of the training, the candidate may undergo some training. The training may be arranged by the
industry, supplier, government or private agency. The training may be in house or external. In a teaching line there may be induction training, short term training under ISTE, AICTE, industrial training, etc. For non-teaching staff and technical staff also, trainings are arranged.

- Professional Membership: Engineers are associated by membership with national or international professional bodies like Institution of Engineers (I), Institute of Electronics Engineers, IEEE, ISA, ASHRE, Management Association, CII, Chamber of Commerce, etc.

- Membership of Professional and Academic bodies: Universities have board of studies, faculty, academic council, senate, syndicate etc. Membership of these bodies is prestigious. Many organisations have governing council and its membership is usually by nomination.

- Publications: Professors, researchers, engineers and scientists have large number of technical papers, published by them. Some of them may be presented at the national and international conferences. Papers are also published in technical and professional journals. Publications in referred journals are more creditable. Some people also publish books.

- Patients and IPR: Many scientists, engineers and researchers, carry out some unique or innovative work and get the patents. It becomes intellectual property right of the researcher or an innovator. It may earn a good reward by way of royalty. Apart from money, it adds to the credentials.

- Project and consultancy: Professors at leading educational institutes, work for projects sponsored by government, industry, R&D organisations and defence organisations. It brings credit to the organisation and individuals. Many professors work as consultants to the industry and government. They make value addition to the organisation

- Hobbies: In many cases, all round development of persons is given due consideration. Music, art, culture, drawing, painting, reading, writing are the hobbies helpful for personal growth.

All these points give a lot of scope to the candidate to project one’s self. Due advantage should be taken, with proper discretion. Care should be taken, not to criticize any individual or organisation. For the failure, nobody should be blamed. Earlier or current employer should not be criticized. Love for the job, commitment, resourcefulness, initiative, sincerity, hardwork, integrity, honesty and ethics should be reflected in the CV and account of the past career may be given systematically.

Extra curricular and co-curricular activities: For the fresh graduates, most of the above points are not applicable. They can mention the participation in sports and cultural activities and technical festivals at local, state and national level. Any prizes won, may help in proving better edge.

The CV should be simple, compact and legible, must meet employer requirement, reflect your image and convince the recruiter.
CV is useful for all types of jobs and at all levels of career. Nowadays, video form of CV is also coming in practice. Some persons are excellent but, they do not realize their market value. CV is the best tool for the same. It provides the opportunity to the candidate to prove better edge over others, in terms of skills, expertise, experience, behavior, attitude and ethics. The presentation about your self should be realistic. Boasting and false information are not advisable. Modesty should not prevent presentation of your attributes. A good CV may boost up one’s own morale, to become good, better and the best. Nowadays, less importance is given by the employers to academic qualifications. Much more weightage is given to attitude, achievements and attainability, which lead the individual to high altitudes of a career.

In addition to personal information and self statement, references are also given due weightage. The reference letters given by a professor, research guides and previous employers with high reputation in their area, are very useful. It is the third party assessment.

In the data presented in the CV, there should not be factual errors, ambiguity, discontinuity, manipulation of information or intentional hiding of information. It may trap the candidate in an awkward situation.

**XI.3.3 Key to Good CV**

CV is nothing but, the password, opening the window of opportunities for the candidate. It is meant for marketing one’s self. It should convince the recruiter that selecting this person will be a value addition to the organisation. The main requirements in marketing are drawing attention and convincing. The key points should be highlighted. The points should be arranged as per the priority requirement of the job. Before an interview, the words in a CV speak for you. For variety of jobs, number of CVs can be prepared by the individual. Finally bandwidth or talents and impedance matching between the candidate and employer are important.

- **Personal Details:** Depending on the law of the land or tradition, full personal details may be given or only just necessary or demanded personal information may be given. Some information is considered discriminatory, is discouraged and should be avoided in specific cases but, should not be hidden where necessary.
- **Address:** Sometimes, contact number, email address and postal address are kept at the top and sometimes, at the bottom. If it is at the top, it will draw the attention. The scrutinizer will easily locate it otherwise it may be thought to be missing. For internal vacancy within the organisation, the address at the top with present designation is necessary and helpful.
- **Covering Letter:** In response to the advertisement or announcement, many people just forward the C.V. CV usually does not carry signature. CV should have covering letter, referring to the advertisement, announcement, the job and
position applied for. The covering letter is addressed to the particular employer. It is signed at the end. Covering letter plus CV makes the application for the job position. Only CV can not be considered as an application. In many cases, unsigned document is not considered authentic. Responsibility about the facts presented is endorsed by the signature.

- **Beginners:** For the fresh graduates from the college, there is nothing to be mentioned against experience and expertise. In such cases, the recommendation letters are very useful. The candidate or the recommender may write about communication, sincerity, intelligence, hard working nature, team building, constructive leadership, creativity, analytical skill, research aptitude, intelligence quotient, emotional quotient, spiritual quotient, integrity, problem solving capability, habit of technical reading, extra and co-curricular activities, association with the student sections of professional bodies, academic excellence, awards and prizes won, certificates of merit received. Representation of the college or university at the state or the national level, in cultural and technical activities, seminars prepared and presented, minor and major projects undertaken, with title of project and name of industry or R & D organisation, if any industrial or professional training is taken, if extra skills are developed with hardware and software tools – all these will add colourful feathers in the cap of the fresh candidate.

- **Role definition:** In a growing company, team building is essential. The candidates for executive level should have the vision for the growth of the organisation. The candidate has to define the scope of what can be done. He has to define his own role. He should have a plan for best use of time, resources and manpower. Strategic planning capacity is necessary. The job also expects objectivity, tolerance, maturity, patience and wisdom. Initiative and resourcefulness should be reflected in the CV. The person should provide the role model and should be able to lead the colleagues.

- **Project/Training/Internship placement:** In the good engineering institutes and business schools, there are Industry Institute Interaction (III) cells and placement cells. They communicate on behalf of the candidates for project/training/internship placements. Some private companies also, provide placements for job and higher studies on payment basis. In absence of such cells, the candidates have to apply individually. The main problem is to locate the target organisations or industries. Internet and websites may be very useful for this purpose. Apart from other details discussed for beginners, the candidate can state the nature of training acquired, duration of the training and schedule. For project or research placement, the candidate has to clarify whether his interest and familiarity is for hardware, software or combination of the two.

- **Presentation:** The shape and size of a paper, quality of typing/printing/Xerox, legibility, richness of language used, grammar, spelling, continuity, consistency and updating of information, sequence of information are important
components of the presentation style. Tailor made CVs for a specific organisation and position are appreciated. Some organisations insist on traditional form of CV. Some employers encourage and appreciate innovation in CV presentation styles.

- **Subheadings:** Under various subheadings, arranged in a proper sequence, all the necessary information should be covered. It may include personal details, attributes, educational qualifications, experience, specialisation, capabilities, achievements, career history, etc.

- **Covering Letters:** Whether the CV is sent in response to an advertisement, or an announcement, or without any advertisement, a covering letter is necessary. In case of advertisement or announcement, its dated reference may be given. In a covering letter, the candidate can mention about his attributes and interests matching with the job e.g. loyalty, reliability, problem solving capability, team building, leadership, experience and expertise, oral and written communication skill, interpersonal skill, administrative, planning and managerial capability. It adds job specific touch. A signed covering letter, written to a particular organisation for a specific position is more specific and authentic. The words, phrases and statements used in the covering letter should reflect the strength and capabilities of the jobseeker, which will satisfy the requirement of the specific employer.

- **Experience:** While highlighting the experience, only recent and the experience relevant to the job should be emphasized.

- **Personal Weakness:** Some people are very frank in mentioning their weaknesses, along with the strength. It should be mentioned trickily and the candidate should be able to justify, how he has overcome it. Good employer may appreciate it. But, if not presented properly and is misinterpreted, it may come in your way.

**Questions:**
1. How the job applications are invited?
2. What is the difference between a Resume and a Curriculum Vitae?
3. What are the general contents of a resume?
4. What are the precautions necessary, while preparing the resume?
5. Describe in detail, the general structure of a curriculum vitae.
6. In CV and Resume, which details are considered as discriminatory by some countries?
7. In the CV, what details or information is covered under the headings of job seeker, skills and experience?
8. In the CV, what information is covered under the headings of achievements, education and training?
9. What type of professional memberships and membership of academic bodies can be covered in the C.V.?
10. For what type of jobs publications, patents and IPR, and project and consultancy are useful. What details are covered under these heads?
11. For which candidates hobbies, extra and co-curriculum activities add value to the CV? What can be covered here?
12. What are the key points to be considered for a good CV?
13. Why covering letter is necessary with the CV or resume?
14. What additional points can be covered by the beginners in the CV?
15. What qualities are expected by the employers from the job seekers?
16. What points should be considered, while stating personal weaknesses in the CV?
CHAPTER XII  
Technical Proposals

XII.1 Introduction:

The Government takes care, about the welfare of the state or the country. It has to take care about social, economical, educational, administrative, legal, security, etc. aspects of the people. Certain activities and actions are taken by the government and in some aspects the role of the government is just for monitoring. Industry, agriculture, health, education, business, banking, infrastructure development, law and order – all these aspects are directly or indirectly responsible for the prosperity and well being of the society. There are large many government departments, attending the issues. Some of the activities are directly carried out by the government and for some of them private and semi-government agencies are encouraged and entrusted. These agencies may get the government grant or in some cases, they only get government approval and work on the self finance basis, following rules and regulations of the land and government guidelines. For education, the government takes responsibility up to certain level for certain sectors and for others, permits the private educational institutes, which are required to submit the proposals to the government and take approval. For industry, earlier licencing was strict. Now it is relaxed but, still the industry requires, some clearance from the government. For roads, bridges, dams, rails, water supply systems, and government buildings, the fund comes from the government but, construction is done by private agency. State electricity boards work under government. In all these cases, to implement various projects or works, procurement of material, providing services, proposals are invited by government, semi-government or private agencies. The interested agencies submit their proposals. The proposals are analysed on technical, commercial, financial, viability grounds. The experience, expertise, financial strength, market standing, bonafide intentions, etc. of the proposers are considered. After initial scrutiny, the proposers are called to defend their proposals before the committee, consisting of government officers, technical, legal and financial experts. The merits and demerits of the proposal are considered and finally they may be accepted or rejected.

As a student, as a researcher, as a professor, as an engineer, as head of the department or head of the institution in an engineering educational institute, as a managing director or a chief operating officer of a company, you may be required to prepare, propose, present and defend some such proposals. In an institute, an organisation or a company, if the expertise is not available or if professional touch and perfections are required for the proposal, the job may be assigned to a private consultant. Nowadays, the trend of outsourcing of assignments has become popular. For big projects at national and an international level, the proposal may be prepared by a national or an international level agency or a person of that reputation. Engineering students should be familiar with the technical proposals.
XII.2 Definition:

A technical proposal is a written official document to carry out some activity, with specified conditions on either side, with some financial consideration. One agency requires some material, some development or construction, some services, some software, or research. It advertises in a newspaper or a website or by any other mode, along with the nature of the product or services required, with detailed specification or scope of activity, conditions and time frame. The concerned, interested parties submit their techno-commercial proposals. So, technical proposal is a written/printed document, indicating their interest in providing the service, with specified conditions; procure material or equipment of given specifications; develop software for required application with given constrain; construct a building, road, bridge, railway line/station, dam, power house of given specifications; carry out research on a given problem or to solve some problem. The proposal also indicates financial expectations and other conditions like payment terms and time frame or schedule of completing the assignment.

XII.3 Purpose:

It is mentioned that the proposal may be for material, equipment, idea, advice, services, software, website, maintenance, manufacture, marketing management, start and run an institute, a research, a problem solving, a training, etc. The scope of proposals is unlimited. Depending on the purpose, some categorization of proposals is possible.

Proposal to start an institute: KG School, Primary School, Secondary School, Higher Secondary School; arts, science, commerce, engineering, pharmacy, law or medical college; a university, a polytechnic; all these are educational institutes but, there may be different approving agencies at local level, district level, state level and national level. In most of the cases, there are specified formats to submit the proposal to the concerned authority. Sometimes, the proposals are invited by the competent authority, which may be required to be submitted as per the specified format, by the specified date.

Proposal for continuation: In most of the cases, the initial approval to start the institute is given, which is valid for sometime, for specified programmes and for a specified intake. After the specified time, the approval or affiliation is to be renewed. For adding new programmes or increasing the seats also, proposals are to be submitted in a specified format, to the concerned competent authority.

Accreditation Proposals: With privatization of educational institutes and some other activities, quality control is necessary. For technical institutes, there is a National Board of Accreditation. For accreditation there is a National Accreditation and Assessment Council (NAAC). For the accreditation of laboratories, there is NABL. For all these cases, the proposals are to be submitted in a specified format.
Programme Proposals: Doordarshan invites proposals from producers of TV programmes on specific the subject, with specified conditions.

Construction proposals: Government departments, municipalities, urban and rural development authorities and private industries and organisations too, invite proposals for construction of buildings, roads, bridges, dams, airports, docks, highways, express highways, gardens, museums, schools, hospitals, factories, industrial sheds, water tanks, water supply systems, irrigation systems, etc. There may be a specified requirement, an estimated budget, a time limit for the construction, including penalty clause. Even for a routine maintenance and a major repair, in case of flood, fire or earthquake, proposals may be invited.

Sales proposals: To sell a property, a building, a business, machinery, cars, buses, trains and planes, proposals can be invited.

Service Proposals: Many of the services are outsourced by government and private organisations: cleaning, maintenance, safety, security, catering, washing of uniforms, conducting interview, sample survey, etc.

Training Proposals: Indian society for technical education and All India Council for Technical Education give grant for conducting training for engineering college and polytechnic teachers. They invite proposals in a specified format, in a specified time frame. For in-house training of their employees, many organisations take help of concerned agencies or persons. They invite proposals for the same.

Research Proposals: Indian Space Research Organisation (ISRO), Department of Science & Technology (DST), CSIR, Defence Research & Development Organisation (DRDO), many government and private agencies, invite proposals for funded research.

Policy Proposals: Big companies invite proposals from professional consultants for the development or revision of their HR Policy.

Proposals are invited for energy audit of a company.
Proposals are invited for appointing auditors for a company.
There is an unending list of items for which proposals can be invited.

Engineering students and engineering professionals are more concerned with the technical proposals. But, as you grow in the career and reach executive level, administration and management activity is to be carried out by you directly or indirectly. Under this condition, knowledge of other proposals is also necessary and useful. When such proposals are prepared by the individuals or for the organization,
we have the time to pause and see back. What milestones are covered and what is the road ahead. Individual and organisational strengths and weaknesses come out as a by product. In this competitive world, this exercise helps us, in identifying our achievements, shortcoming, and necessary areas of improvement. It sets the road for improving product, process, personnel and practices. In case of a proposer strength, we earn the dividend of government or private grant, subsidy, research grant, prestigious contract, good market share, good ranking and above all, self confidence and satisfaction. Within the organisation, the task of such proposals is usually assigned to experienced or dynamic persons. If they are successful with the proposal, along with the organization, they are also benefited. They enter the inner circle of the management confidence and rise on the ladder of higher promotions.

XII.4 Types of Proposals:
It has been seen that there is a very large number of activities, meant for different purposes, for which the proposals may be invited by the concerned party. In response to this, there may be large number of parties interested in undertaking the activity. It is very difficult to categorise them, into few categories. Still, some of the activities and related proposals have something in common. So, effort is made to group them together.

XII.4.1 Business Proposals: Supply of material, construction of roads, buildings, railway, a garden, a bridge, a dam, a party plot, a parking lot, etc; providing services for transportation, washing, catering, safety, security, insurance, fire fighting, training, consultation, recruitment, maintenance, etc; procurement of equipment, hardware, software, stationary, etc: all these can be considered as business proposals. One side has the requirement of material, machinery or man power; or requires some type of service; or requires development of some infrastructure or utilities. This first party has the funds but, it has no facility for in-house manufacture of the said item, or the temporary requirement is more than its manufacturing capacity, has no competent manpower to develop the said hardware or software, or to provide in house training, or the requirement is urgent and the organisation can not spend time for this activity or can not wait, or in some cases the in-house solution is not cost effective or the organizer is not able to diversify its activity. Under this condition, there is no option but, to take help of external persons or party. For the material, the type of material, its quality and quantity, schedule of requirement, affordable price, etc. may be identified. For the building or any other infrastructure or equipment, the specifications may be finalized. For the services, the nature of services required, duration of the services, urgency or priority of the services, quality of services, quantum of services, liability on either side, etc. are fixed up. For the equipment, the specifications are decided. For the hardware and software, technical details are decided. In case of a problem or a project, it is well defined.
After finalizing the requirement, the inquiry may be floated to invite the proposals. Nowadays, the list of probable suppliers of equipments, material, hardware and software; list of service providers for specific services are available in the form of printed directory, yellow pages or similar agencies. Sometimes, soft copies of directories are available in a CD form or on an internet. If the requirement is of recurring type, by past experience also, the organisation develops the necessary list. From the website of various agencies, for various items and services also, such list can be developed. Depending upon the size of the organisation and level of the activity, the requirement may be on a smaller scale or a larger scale. For a limited requirement, limited number of suppliers or service providers may be contacted. For this purpose inquiry letters may be written individually, inquiry may be sent personally by email, for small urgent requirement telephonic message or fax may be sent. For a larger, long term, requirement of costly items and services, quotations may be invited through newspaper advertisement or on website.

The required specification or service conditions should be well defined, at the time of inviting proposals. If there is any ambiguity, there is a possibility of getting inferior material or equipment, poor hardware, software or services. It may also lead to a legal dispute. Usually, the general requirement is specified in the advertisement in newspaper, on internet or website. Complete specifications or detailed requirement is usually covered in a printed document. In response to the announcement, the interested parties will approach the first party. Regarding the tender inquiry, if some printed documents and form of submitting the proposal is available, they will purchase the same by paying necessary fee. The proposals will be prepared by these interested parties by themselves, by their experts or their consultants. These parties submitting the proposals may be manufacturers, traders, authorised representatives of some companies, maintenance agents, service providers, security agency, fire safety agency, contractors, consultants, trainers, HR agency, assessor, advisor, etc. The major proposals are usually in a specified format. In case of an ambiguity, clarification is sought by the eitherside.

When the inquiry is sent to a selected group by individual communication, they are identified with certain consideration. They may be well known in their area of activity or they might have some dealing in past. So, the proposals may be reasonably good or almost of the same level. When open tender inquiry is published, in a newspaper or on internet, there is a lot of variation. The level of persons, parties and agencies may be quite different. Some people send the proposal, without understanding the requirement. Some are not really capable. When the proposal is sent by the trader or a middleman, there is more problem. In case of equipments, there is no guarantee about after sales service, repair, maintenance, training, etc. After getting the proposals, proper scrutiny of proposals is necessary. For major items and activities, presentations by the proposers or their
representatives are arranged. In case of equipments and software, demonstrations are arranged.

As discussed, the solicited proposals attract large many proposers. On the initiating organisation side, they usually specify the format of the proposal, quality requirement of the material and specifications of the equipments. On proposer side, there is a keen competition, in case of major equipment or bulk order or prestigious assignment. The proposer may have any reputation or standing but, can not under estimate the other parties. It necessitates that the requirement of the initiating company should be properly understood. If necessary, it should be discussed by the experts in the company. When format is specified for the proposal, it should be filled completely. No column should be left blank. All the information should be supported by necessary documents. Even if not specified in the format, the strength and capability of the proposing company should be highlighted, full efforts should be made to convince the initiating company, how this proposal and this company is different than the other companies.

In this category of business or sales proposal, the initiating company requires the material, machinery, manpower, services, etc. For this purpose, after finalizing the deal, agreement will be made with the selected proposer. Apart from technical aspects of the deal, the financial aspects like initial quoted price, negotiated price, taxes, transportation charges, mode of payment, penalty clause, etc. should be well clarified by both the sides other wise, there may be a legal dispute and the assignment may be delayed. Sometimes earnest money deposit (EMC) is taken against major proposals.

XII.4.2 Research Proposals:

Research proposals may be invited internally or externally. Government and public undertakings, private organizations, and educational institutes encourage the research activities. For the technological growth of the nation and survival of the industries in global competition, research is inevitable. There are certain funding agencies at national and international level for the research. All India Council for Technical Education (AICTE), Government Department of Electronics (DOE), Department of Science and Technology (DST), Defence Research and Development Organisation (DRDO), Central Scientific and Industrial Research Organisation (CSIR) and University Grants Commission (UGC) are some of the government agencies, sponsoring research in science and technology. From time to time, they invite research proposals on thrust areas and other areas decided by them. There are some government organizations, exclusively set up to carry out full time research, in specific area already identified or areas which may be identified in future. Space Application Centre (SAC), Indian Space Research Organisation (ISRO), National Physical Research Laboratories (NPRL), Institute of Plasma Research (IPR), etc. have scientists and engineers employed on regular basis to
carry out the research. They also outsource part of their research problems or seek help of outside scientists, engineers, professionals, educational institutes and other agencies. They collaborate with others to meet the time bound requirements, to overcome the problems of limited manpower and to encourage the young research scholars to join hands for the challenging jobs. Universities support the research in the affiliated institutes. Industries also, spare good budget for the research. It is necessary for them to develop new products, processes, programs, patents, cost effectiveness, get higher productivity, higher efficiency, etc. to prove a better edge in the global market. They may have limited in-house staff to carryout research. They collaborate with the educational institutes for the joint research. Silicon Valley is the result of such collaboration. Some educational institutes have national and international ranking. They have learned professors with post graduate and Ph.D. research scholars working under them. These institutes are contacted by some of the above agencies to solve their research problems. Some renowned professors are contacted directly, due to their expertise in a particular area.

So, there are two modes of inviting research proposals. In one case, there is some annual budget for the research. It may be allocated to different areas of development. Research proposals may be invited in different areas, for specific research from the researchers. The announcement for inviting research proposal may appear in national newspaper, bulletins, and circulars to universities and reputed engineering institutes or may be announced on the website. The advertisement or circular may not cover the format and other details. The hard copy of the application form or the website may cover all the details about the research grant and the complete format for submitting the proposal. Research proposals can be submitted by a professor or a head of the department, in some educational institute. The experience, expertise and reputation of the professor or head or research project co-ordinator are very vital. Sometimes the research proposals are fetched by the personal reputation of the professor and the research work done under him in past. The area of research should be of current interest, there should be necessary expertise and infrastructure support of the management and good team of researchers. The format for research proposal should be filled fully and carefully. The information stated should be supported by documents, wherever necessary. The research problem should be stated in detail.

When the research proposal is invited by an advertisement, in a newspaper or website or a circular to institutes all over the nation, the response may be very wide. There may be a large number of proposals, with a lot of variation. So, the initial format should be well designed. After getting proposals, some initial scrutiny is necessary, to short list the proposals. There may be a presentation of short listed proposals before the panel of experts. The proposer should envisage these stages. The proposal should be well documented, to get through the initial scrutiny. The technical aspect of the research proposal should cover the relevance of the
problem, various approaches, approach to be selected, advantages, disadvantages, technical gain by the proposal, etc. It should be supported by the experience and expertise of the principal investigator or co-ordinator, his team, infrastructure available, capital and recurring grant required, schedule of project completion, reputation of the institution, etc. If the proposal gets through in an initial scrutiny, it should be well defended, in the presentation before the panel of experts. In India, most of the research is supported by government agencies and by government funds or is carried out by government or semi-government organisations run by government or run with government fund. The industries may have R&D department but, mainly for tax benefit. In a very few cases, our industries are ready to sponsor research in educational institutes. There may be few exceptions. In USA, the industries and educational institutes join hands in R&D activity, and result is reflected in the technological and industrial growth.

XII.4.3 Educational Proposals:
Education spans from playgroup, kindergarten, primary school, secondary school, higher secondary school; under graduate colleges of various faculties like arts, commerce, science, law, pharmacy, engineering; post graduate institute and institutes offering Ph.D. programmes in various faculties and various branches in case of engineering. At lower, school level, local authority may be involved. At the higher school level, district and state authority may be involved. At the college level, state government, university and national authorities, like University Grants Commission (UGC), AICTE, Medical Council, Pharmacy Council, etc. may be involved. In all the cases, proposals are to be submitted to the competent authority, to initially start the institute with specified intake and later on to continue to run the institute. For schools and colleges, not offering professional courses, usually proposals are not invited. A particular trust or a body plans to start a school or a college. It prepares the proposal in a specified format and approaches the concerned authority. Here, as the proposals are not invited by advertisement or common circular or general announcement, the number of proposers may be less. There is not much competition of other proposers. The assessment is on individual basis, depending on the fulfillment of requirements and bonafide intentions of the trust. There may be indirect competition of other institutes in the area. So, the proposer should be aware about the availability and demand of seats, absorption to further studies or employment, available quality of education in the area, target group of students, transport and other infrastructure facility. In engineering pharmacy and medical education, there are national level controlling authorities like All India Council for Technical Education (AICTE), Pharmacy Council and Medical Council. To start a new institute, to add a new programme, to increase seats, to start the post graduate programmes, to start second shift of the institute, to start a part time degree programme or to start collaboration with a foreign university, it is necessary to apply to the statutory body like this, in addition to state government and university. There is a specified format for each purpose by each statutory
body. In most of the cases, the applications are invited by the statutory body. At present, a lot of expansion is going on in professional education. In response to such advertisement in newspaper, announcement on website or circulars, a large many proposals may be received. The proposals are to be submitted in a specified format available on website or from the head office. It is usually also, necessary to take the permission or no objection certificate of the state government and affiliating university. The application formats of the statutory bodies are very detailed one. As proof, a lot of attachments are necessary. In some cases, the photographs of faculty, supporting staff, infrastructure, library and laboratory blocks and equipments are asked for. Sometimes CD or videography is asked for. The number of applications being large, it is difficult to visit all of them personally. The videography serves the purpose of virtual tour of the campus. It prevents chances of false reporting and showing dummy faculty on role or same faculty on the role of more than one institute. After thorough scrutiny of hard and soft forms of documents, photographs and videographs, some organisations are shortlisted. The expert team visits the organisation, if felt necessary. Permission may be granted to start a new institute, a new programme, a new shift, increase the intake, etc. These permissions are for a specified period of some years. On expiry of the period, proposal for renewal is necessary. During the approved period also, periodically a lot of information is mandatorily to be displayed on the website. In case of deficit in satisfying the norms, compliance report is to be sent, in specified time limit.

In case of affiliation of number of institutes to a common affiliating university, there is no academic autonomy. In the quest for autonomy, many institutes apply to the competent authority for deemed university or private university status. In some cases, more than one authority may be involved, permissions of all concerned are necessary in the matter. In some cases, permission of University Grants Commission is necessary. For private universities, it may not be necessary to approach the national statutory body in all the cases. But, if the individual institute approaches the statutory body and if it gets approval, the ranking improves. As the GATE candidates are eligible for stipend, the institute is able to get good PG students during the admission. Such recognized institute is also eligible for central funding for equipment, modernization, research, travel grant for paper presentation, etc. Government, semi-government, and grant-in-aid institutes are also benefitted by grant for center of excellence, resource centers, IIP (Industry Institute Partnership) cell, etc.

XII.4.4 Accreditation Proposals: There is a national board accreditation for the accreditation of programmes offered by engineering institutes. Accreditation is programme wise, for the strengths and weaknesses, as per specified format. The detailed criterion cover teaching learning aspects, management aspects, administrative aspects and financial aspects. The information covers student intake,
admission process, result, recruitment, student feedback, teacher feedback, employer feedback, etc. The visiting team interacts with the students, the faculty, the supporting staff, the management, the administration, the guardians and the employers, too. Similarly, for Institutes and Universities, there is NAAC accreditation. These accreditations are not mandatory but, are useful for the institute or university to find its strengths and weaknesses and get third party assessment. There are various laboratories, testing equipments of different types. For the manufacturer, such testing is necessary for quality assurance with third party check. For the customer, it is necessary to verify the specifications and expected performance. The Bureau of Indian Standards (BIS) permits laboratories at some institutes to carry out the testing and issue certificate on behalf of BIS. There are some government and semi-government laboratories having good testing facility, to test as per the compliance of national or international standards. Electronic Quality and Development Centers (EQDC) and Software Testing and Quality Centers (STQC) also offer such facilities. These laboratories are approved by NABL, to undertake testing of certain items and softwares.

Nowadays, there is a trend for ISO certification. BIS and testing laboratories concentrate on quality of the product, in terms of verification of specifications and claimed performance. On the other hand, ISO concentrates on the verification of process and procedures. Logic is that, if the process and procedure are as per established standards, the product quality and performance of an organisation can be ensured. It may be a debatable point. But, ISO certification agencies are doing a good business. They do not invite the proposals. Government and private offices, educational institutes, banks and industries opt for such certification. There are number of consultants, who help in preparing and submitting the proposals for ISO certification and they also help for the defence of the proposal.

XII.5 Characteristics of proposals:

Business proposals lead to some form of agreement for material, machinery manpower or services from one party to the other party, against the financial return. Proposer has to convince the solicitor that it can supply the quality material at competitive price, required machinery with required specification at competitive price, provide the required manpower with appropriate qualification and experience, in required number at given time. In case of services, quality and promptness of service are to be ensured. In all the cases, competitive price is a deciding factor. The proposal should be rich in information. The arrangement of proposal should be easy to follow. The arguments should be logical. The information and supporting documents should be able to convince the initiator, about the competence, market standing, financial and technical soundness, capability and bonafide intentions of the proposer. Technical capability is also reflected by style of presentation in the proposal. Personal touch is desirable. The customer should fill that he is not spending the money but, is investing the money. This investment will earn value
addition for him. The requirements and expectations of the solicitor should be well addressed. Doubts and expected queries, from the solicitor, should be addressed before hand. The structure of the proposal should be sound. All the points related to the background of the proposer, objective of proposal, steps to be followed in implementation, schedule of implementation, quality assurance, speciality of approach, financial and technical soundness, keenness to undertake the assignment, payment terms, willingness to negotiate or justification of quoted price, strength of qualified and experienced manpower, major assignments successfully undertaken in past and final summary of the proposal should be covered and main points should be highlighted.

R&D proposals stress on the research concept, its originality, social, economical, academic gains. If some indigenous development, import substitution, cost effectiveness, energy conservation, new source of energy or efficiency gain is envisaged, it should be highlighted. If it is likely to lead to patents or intellectual property rights or prestige for the organisations involved, should be highlighted. Overall line of action and road map of project implementation should be presented. Capital and recurring costs, necessary infrastructure and other facilities required should be estimated. The contribution of either side should be well defined. This type of proposals are weighted by the qualification, experience, expertise and achievements of the co-ordinator or principal investigator of the R&D project proposed and his team, reputation and track record of the organisation, where the project is to be carried out, infrastructure, library and computational facility available, and commitment of the organisation.

For technical institute proposals, social commitment should be highlighted rather than profit orientation. The experience of running such other organisations, their success stories, acceptance by students and employers, employability of students, quality assurance plan, faculty strength, infrastructure and utilities development, library, computer center, canteen facility, hostel are the key requirements. If some facility is existing, it should be highlighted with plan of expansion with time schedule and resources available or identified. The bonafide intentions are also projected by academicians, technocrats, social leaders, economists, government officers, and other renowned representatives in the governing council or board of trustees.

Accreditation proposal formats for technical institutes are also well defined. Specific, quantitative information is required on various aspects. It may be laboratory facility, library facility, computer facility, faculty and staff strength, management, administrative, financial and academic details, hostel, transport, utilities. Feedback of all stakeholders is given due weightage. The format is so specific that it is difficult to hide weaknesses or negative points. For test laboratories, all the test equipments necessary to test with compliance of necessary
standards are to be ensured. For ISO certification, procedures and practices ensuring smooth, systematic working and presenting transparency are to be highlighted.

Any proposal should be able to justify the purpose, propose the procedure, give assurance to meet the objective with supporting evidences, prove, better edge over other proposals and proposers, without knowing them. Good track record of completing other, earlier assignments, detailed financial statement proving cost effectiveness and reputation of completing other assignments in time or before time, without sacrificing the quality and quantum of work, may be the key points to win the project. For the proposing organisation, capability to complete the assignment should be convinced because, any organisation may be worried that if the assignment is not completed by the proposer, its time and money both, may be wasted, which may not be recoverable. The proposer undertaking the assignment is required to assess the manpower, machinery and money to fulfill the assignment, should propose the plan of managing each component and justification for each calculation.

XII.6 Structure of the Proposal

XII.6.1 Structure: The structure of the proposal is usually specified by the soliciting agency, as some well designed format. The government department or semi-government or private body or industry or business house, may require some material, machinery, manpower or services every year or frequently at some regular interval. Some organisations are established to encourage and monitor some activities in the area of education, social development, health care, research, etc. In all these cases, the monitoring and funding agencies have a long experience in the line. They have certain aspects in their mind. By some bad experience, they know the loop holes of proposals. They define different features that help in identifying strengths, weaknesses, capabilities, experience, infrastructure, quality and quantity of manpower, financial strength and market standing of the proposer. So, experienced organizers usually, with long experience in the line, develop the format which may be almost foolproof in deriving all the necessary information, without any ambiguity from the proposers. This type of format will provide valid basis of comparison between one proposer and the other. If any criterion is not attended or is communicated wrongly intentionally, it may go against that proposer. Competent proposer will be able to score well on all the aspects and may win the deal by the strength of its merit.

Nowadays, there is outsourcing of large many activities. There is a lot of variation in all these activities. So, it is difficult to specify any common structure or format for all types of proposals. Even in business proposals, the structure may be different for material and manpower procurement, for training and services it may be different. Construction activity requires totally different considerations. For educational and research activities, depending on the criterion to be considered,
the soliciting authority may design its own format. Where the volume or scope of
the work or services is limited, all the components of the structure may not be valid
or may not carry sufficient weightage. In case of smaller or casual assignments,
usually freedom may be available to the proposer. The proposer can utilize his
experience and expertise to design his own format, to accommodate all the
relevant and necessary details in favour of his proposal. His uniqueness may
become his identity, to qualify for the deal. For various routine, recurring, large
scale requirements some general structural features can be discussed. It is not
necessary that all of them may be applicable to all the proposals equally.
Depending on the nature of activity, some features may be applicable with more or
less weightage and may be used in the sequence decided by the solicitor.
Depending on individual strength or weakness, the proposer may also expand or
compress the concerned part of the structure of the proposal. The first part is
usually introduction section. It is followed by the core or main theme of the
proposal, then summary of proposal and it terminates with appendices and
attachment of supporting documents.

Introductory Part:

Cover Page: When some organisation, industry or a statutory body invites the proposal
in a specified format, this type of cover page may contain the name and address of the
soliciting body inviting the proposal, along with its complete address, phone numbers,
email addresses and its websites. In case of a statutory body, it mentions that the state
or central government department under which it is working.

In bold letters and in a well defined rectangular block, it may mention the specific
purpose, for which the proposals are invited and the target group of proposers.

The same page may also contain some instructions regarding preparation of the
proposal. The dos and do nots for the proposal, the number of copies to be submitted and
mailing address for the proposal may be specified by the soliciting organisation.

Title Page: Title page is usually, the first page from the proposer side. Sometimes the
format of this page may also be specified by the inviting organisation. Otherwise, the
proposer may prepare its design. The first option results in some uniformity. It is for
administrative purpose. Again, it indicates the title of the proposal or project or
assignment. It also, covers the name of the authority to which proposal is submitted.
The proposal usually goes in the name of the competent authority from proposer side.
The authorised person may be a head of the department in an engineering educational
institute, head of the educational institute, a registrar of the university, a principal
investigator for the R & D proposal, a co-ordinator of the training programme or activity,
or a chief operating officer of the company. The bottom of the title page requires dated
signature with name, designation and official seal of the authorised signatory and
institute. The whole responsibility about the correctness of facts and figures presented in the proposal and authenticity of documents solely lies with the authorised signatory. It is a part of the proposal.

Covering letter: Particularly in government, semi government offices and some private organisations also, there is a system of writing a covering letter for any application or proposal. It starts with the name and address of the sender. It is addressed to the head or the controlling officer of the receiving organization, with or without name, designation and address. It is followed by “subject: … “, which mentions the subject or purpose of the communication, in one line. It may be followed by “Ref:………. “, which covers the reference no. of the letter or the advertisement, inviting the offers or proposals. The next one or two paragraphs, mention the purpose of sending the proposal. This type of covering letter is given some outward number with date, which can be referred in the future communication or the reminder.

Summary of Proposal: In the beginning of the proposal, this type of summary highlights the whole proposal in short. It is the overview of the proposal. For initial scrutiny of the proposal, it gives idea about the purpose, nature of proposal, background and strength of the proposer. In initial scrutiny, if it is short listed, the proposal may go for final scrutiny or may be considered for personal visit of the expert team for personal interaction and assessment. If the summary is impressive, it will encourage the receiver to go through the whole proposal. Otherwise, it may be put aside.

XII.6.2.1 Typical format of technical proposal, specified by an US planning consultant

1. Name and address of firm.
2. Contact person for the project, address, phone number email.
3. Key personnel along with qualification and designation.
4. Sub consultants for the project.
5. Major projects undertaken in past.
6. Authorisation/registration details of the firm.
7. Authorised/registered sub contractors.

Main body of proposal:

- Approach for solution of problem.
- Method of co-ordination between inviting company and consultant.
- Unique models, methodologies or products to be used in services.
- Efficient use of manpower and resources.
- Technical strength and recruitment plan.
- Experience of other projects.
- Quality control methods.
- Offices involved in the project (with locations).
• Co-ordination of work.
• Additional relevant information.

XII6.2.2. Educational Proposal Format

All India Council for Technical Education (AICTE) invites proposals for different purposes and sanctions grant accordingly. One of the areas identified by AICTE is MODROB – Modernisation and removal of obsolescence. Under this head, existing engineering teaching institutes can apply to establish some new, advanced laboratory or modernization of some existing laboratory. A typical format is as follows:

Covering Letter

No. __/DIR/MODROB/2013/
Date:______________
Director/Principal of
Engineering Institute
Address......................

To
The Advisor,
RID Bureau
AICTE
Address.............

Sub: Forwarding of proposal(s) under MODROB
Ref: Announcement No.__________ dt.____________ by AICTE

Dear Sir,

With reference to the above, we are forwarding proposals under MODROB as listed below, to be considered for the year 2013-14

(i)
(ii)
(iii)

………… Institute of Technology, now a constituent of the recently established………… University, is a leading institute in the state of ________ offering multidisciplinary programmes in engineering. It offers 8 UG, 8 PG and Ph.D. programmes. All the UG programmes are accredited by National Board of Accreditation.

I request you to favourably consider the above proposals.
Thanking you,
Yours sincerely

Prof. (Dr.)________________________

Encl:  (i) Soft copy and hard copy of the proposals
(ii) Brochure of the Institute
(iii) Copy of letters of Accreditation.

Cover Page:

PROPOSAL FOR
---------------------- LABORATORY
UNDER MODROB
2013-2014

LOGO
Name and address of the sending institute

Index

INDEX

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Contents</th>
<th>page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Summary Sheet</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Proposal</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Resume of project co-ordinator</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Endorsement by head of the institute.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Appendix</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• NBA Accreditation letters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• AICTE Approval letters</td>
<td></td>
</tr>
</tbody>
</table>

Summary Sheet

<table>
<thead>
<tr>
<th>A Scheme</th>
<th>B Region</th>
<th>C State</th>
<th>D Name of Insti.</th>
<th>E Address</th>
<th>F City</th>
<th>G Pin code</th>
<th>H Depart -ment</th>
<th>I Year of establishment</th>
<th>J Year of accreditation</th>
<th>K Name of co-ordi.</th>
<th>L Email adres ses</th>
<th>M Projec t Title</th>
<th>N Project cost</th>
<th>O Project Duratio n</th>
<th>P Group of pres.</th>
<th>Q Type of institut e</th>
<th>R Level of institut e</th>
<th>S On goingproj.</th>
</tr>
</thead>
</table>
Details to be filled for A to S
Place:________________________ Date:__________

Signature of project Official Signature of head of Co-ordinator Seal the institute
Name, Designation

Proposal:

FORMAT
For Submission of proposal under MODROB Scheme

4. Technical Details of the Project.

Objective of the Project.
   Necessity of the laboratory for students, how it will be useful for future jobs?
   How existing facility will be extended with this laboratory? Utility of the laboratory
   for training, project, etc. may be mentioned.

1.2 Justification of the project with respect of Department/Institute needs:
   Quality and need based instructional facility, inter department use, present
   handicap, emerging center of excellence.
1.3 Relevance of the project with the academic and research activities:
   Scope of the laboratory facility for training of academicians and industry
   personnel, joint programmes, project, consultancy and R&D possibilities may be
   mentioned.

2. Whether the institute is covered under the word bank project for Yes/No
   Technical education

3. Major Equipments (costing more than Rs.1.0 lakh) available in the department.

   List of Equipments
   Sr.No.   |   Name of equipment   |   Cost   |   Model & Make

4. Courses offered by the department
   Sr. No.   |   Level   |   Programme   | Weather Approved By AICTE No. and date of approval
5. Schedule of Project Execution

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Activity</th>
<th>Week after approval (progressive figure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Specifications, inquiry</td>
<td>2</td>
</tr>
<tr>
<td>ii.</td>
<td>Comparative statement and technical negotiations</td>
<td>6</td>
</tr>
<tr>
<td>iii.</td>
<td>Purchase committee, commercial negotiation</td>
<td>8</td>
</tr>
<tr>
<td>iv</td>
<td>Order</td>
<td>10</td>
</tr>
<tr>
<td>v</td>
<td>Procurement</td>
<td></td>
</tr>
<tr>
<td>vi</td>
<td>Installation, training, regular use</td>
<td>24</td>
</tr>
</tbody>
</table>

6. Proposal Budget Estimate:

Non recurring expenses : Total Rs._________ lakh

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Equipment/Make/Model</th>
<th>Cost</th>
<th>Justification</th>
<th>Already existing yes/no</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x</td>
<td>Installation &amp; training</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Recurring expenditure: (For project period)

i. Salary of technician
ii. Consumables
iii. Maintenance

Total Budget Estimate : (A+B) = Rs.___________ lakhs.

Date

Signature Project co-ordinator Seal Complete Address
Office Name, Designation
Signature Head of the Institute

Complete Address
Co-ordinator’s Resume

FORMAT
For
Resume of Project Co-ordinator

1. Name & Designation
2. Date of Birth
3. Name of the Institute
4. Department
5. Field of specialization
6. Academic Qualifications
7. Technical Qualifications
8. Industrial experience
9. Awards/Prizes/Certificates
10. Membership of professional bodies
11. No. of projects completed/ on going as chief co-ordinator/ co-investigator

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Funding Agency</th>
<th>Name of Scheme</th>
<th>Programme Title</th>
<th>Year of Funding</th>
<th>Duration</th>
<th>Amount sanctioned</th>
<th>Status complete on going</th>
</tr>
</thead>
</table>

12. Publications

Place: ____________________ Office Signature
Date: ________________ Seal Head of the Institution

Signature
Chief Co-ordinator
Name, designation

Endorsement
Endorsement from the
Head of the Institution

I certify that the Institution will assume full responsibility for fruitful completion of project submitted by_______________ as co-ordinator under_______________ programme of AICTE.

2. The Institute will provide the basic facilities available in the institute and will undertake financial and management responsibility of the project.
3. Certified that the information provided in the proposal is true to the best of my knowledge and belief.

4. The institute agrees to abide by the terms and conditions laid down by AICTE.

Place: Seal Signature
Date: Head of the institution
Address

Attachments:

Copies of the enclosures mentioned should be attached with a list in proper sequence.

XII.6.2.3 Research Proposal

When a candidate wants to register for Ph.D. under a University, along with formal application form, he has to submit the research proposal. For research in science and technology, there are many funding agencies like CSIR, AICTE, Department of Science and Technology, State level science and technology department, Defence Research and Development Organisation, Indian Space Research Organisation, etc. They invite and encourage the research proposals and grant funds also. Each organisation may specify its own format. But, some features of research proposals can be generalized.

Research Proposal Format I

Abstract:
In the beginning of the proposal, an abstract may be given. It may be a single paragraph of about one hundred words or so. It may give some idea about topic of research, hardware, software and experimentation involved, nature of data, data acquisition, analysis and interpretation of results and its significance.

(The abstract is followed by the main body of the proposal)

Problem statement:
The problem to be solved is formulated. The detailed statement of the problem is stated and explained here. The research may be aimed at overcoming the limitations or disadvantages of present practice. In case of measurable parameters, the variables and their correlation and variation with respect to time may be specified in terms of mathematical models.

Problem background:
Initially the origin of the problem is discussed. It may have some scientific, technological, social, economic, environmental, indegenisation significance. The review part overviews the work done by other researchers and state of art technology. The
hardware, software, models, hypotheses, tools, techniques, approaches used by other researchers may be reviewed critically. The results analysis and conclusions are checked. The researcher has to extend or find a new path, where others were blocked. Some new direction or approach is to be developed by the new researcher.

Scope: The researcher has to define his objective. Any research may have unlimited scope, within the frame work of available time, infrastructure and resources, the scope of research is identified. What aspects of the problem will be tackled and for this purpose, what type of data will be necessary, that is stated here. The research may be in experimental form or an analytical form, it may be hardware based, software based or a combination of the two. It is also clarified, what aspects will be covered and indirectly it may also, state what is beyond the scope of the current research.

Results: Procedure to be followed for analysis of results and expectations about the result may be covered here. The results may be used to meet the objective of the research problem, generalization to be made and some new process or procedure or design may be suggested.

References: To make the research proposal authentic, some support of literature survey and comparative study of other works should be made and the relevant references should be listed here.

Note: This format is more useful for the student, planning to register for Ph.D.

Appendix: Some tabular information and supporting documents are covered in Appendix.

Research Proposal Format II

Some research is carried out, with the help of project funding. In this case, the format may be slightly different. The illustration here is for the funded research project in the medical field. This type of research proposals may be submitted by faculty members, who want the research grant. The faculty in the department may himself work for the project or employ some research fellows or assign the work to Ph.D. candidate, working under him.

Format

Title: The title of the research is specified in one to three lines. It gives general idea about the nature of the project.

Investigators: It covers the names, qualifications, position of the principal investigator, his team members and research fellows. For the principle investigator, resume may be useful.
**Institution:** The institute or organisation, where the project is to be carried out is specified by name and complete address.

**Executive Summary:** The executive summary explains, how the project will be implemented. It covers the nature of research, actual research problem, purpose and approach to be followed in the research project. Expected results and interpretation modality are also covered.

**Review work:** The starting point of the research problem formulation is the review of recent publications in the concerned area. Use of local data makes the research more relevant.

**Justification:** The funding agencies prefer the projects, which have socioeconomic, environmental and societal issue. Medical projects have better chance, if they are focusing at healthcare delivery.

**Research Objective:** The research objective may be broad or specific.

**Approach:** the approach or methodology for the research may be analytical or practical, hardware or software based or combination of hardware and software. It may be only comparative review type study, case study, and clinical trial in case of medicine. In case of a survey type research, geographical location, sample population and its size are important. The study period is to be specified. Research of a longer duration is divided into number of phases. Method of data collection, data management and analysis are also covered. If possible, format of results to be presented – pie charts, histograms, line graphs and tables can be specified. When the research is carried out for a specific organisation, the results may be submitted to some authority.

**Ethical & Social Issues:** Some research like genetic engineering and cloning may involve ethical and social issues. Research in bio-medicine may involve use of animals, which is not permitted in some cases. The proposal should mention, how these issues will be tackled.

**Constraints:** The research may have constraints of funding, infrastructure, hardware, software, international laws, involvement of more than one controlling authorities.

**Requirements:** The execution of any research project may involve existing and new manpower on technical and non technical side, use of existing and expansion of infrastructure, training or manpower, stationery, computers, conveyance facility, consumables, etc. All the short term and long term requirements should be identified.
Budget: Capital and recurring costs should be estimated. It may include equipment and infrastructure costs on capital side. On recurring side it includes salaries of technical and nontechnical staff, consumables, maintenance, electricity and other utility charges, transportation, stationery, printing, Xeroxing, postage, telephone, etc. contingency charges.

In any research proposal, it is expected that part of the budget is shared by the host institution and part is funded by the sponsoring or granting agency. It should be clarified here.

Budget Justification: When the project cost is very high, the justification of each major component of cost is desirable.

References: The foundation of new research is laid on the research work done by other people earlier. For some fundamental concepts some very old references can be quoted otherwise, recent references are considered relevant. Nowadays, the technology, particularly in electronics and computer is developing so fast that some products and procedure are outdated before routine introduction in the market. So, recent references are desirable.

Appendix: To maintain continuity of flow, some additional information is covered separately in appendix.

XII.6.2.4 Proposal for Post Graduate Programme

The AICTE has specified some format of the application form for PG programmes. There are different formats for UG and PG programmes. The PG programme application format has two parts. Part I covers the institution and management related details. Part II covers the details related to the concerned department.

1. Institutional Details:
   It requires, Name, address, phone no. and email address of the institute; name of trust, address, contact details; type of institute, affiliating university; name, designation, contact details of head of the institution; year of establishment; concerned UG programme name, its date of approval and approval no.; other part time and full time diploma, degree and PG programmes mentioning their intake, date of starting and accreditation status; students graduated in concerned UG program, during last five years with division; details of other programmes if any, not approved by AICTE.

2. Physical Infrastructure:
Under this column, land and its nature, location of institute, builtup area for UG and PG programmes, details of area for the proposed PG programme are to be specified.

3. **Computer Facility for the Proposed Programme:**
   Under this column, number of computers, their types, no. of servers, printers, available softwares, multimedia, internet and other available facilities should be mentioned.

4. **Financial status:**
   Sources of financial support during last two years are to be specified year wise and for recurring and non recurring heads. Total recurring and nonrecurring expenditure during last two years are required. Salary, library, computer, consultancy, R&D, faculty development and special project expenditure for the current year are also asked for.

5. **Academic Details (concerned department)**
   It requires the UG and PG faculty, in terms of student intake, weekly work load, required faculty and actual faculty number. The column further asks, details of fulltime permanent faculty in the department. For each faculty member name, qualification, specialization, weekly work load, experience, joining date, pay scale, are required to be mentioned. Names of visiting faculty with their qualification, specialization, work load, experience, joining date and hourly remuneration are required. The details of supporting staff (technical and administrative) covering qualification, date of joining and salary are required.

6. **Syllabus and Examination Scheme:**
   The syllabus, revision data, speciality, examination pattern and assessment schemes with weightage are required. Details of weekly theory, practical and total contact hours are also required.

7. **Library:**
   No. of text books and reference books in terms of titles and volume; number of national and international journals in print and e-mode, for the concerned programme are asked for. Recent addition is to be specified.

8. **R&D Projects:**
   It asks for R&D projects undertaken, during last four years with duration and amount.

9. **Consultancy Projects:**
For the PG programs more weightage is given to R&D and project consultancy. It further asks for consultancy projects undertaken during last four years with the amount.
Details about existence of a placement cell, placement officer, number of students passed and number of students placed by the cell are to be given.
10. **Compliance:**
   Status of the queries related to the compliance of AICTE norms is required.

11. This column gives scope of providing additional information by the institute.

   The proposal is signed by the head of the department, along with name and designation.

   It is further signed by the head of the institution, with name, designation and official seal.

**Appendix:**

It includes course structure, teaching and examination scheme, detailed syllabus; faculty development activities, including training programmes conducted and attended by the faculty, list of publications, conferences arranged at the institute.

**Detailed Project Report (DPR)**
- Name of PG Programme: (Proposed)
- Year of Commencement:
- Name of Institute:
- Contents

**Chapter I Preamble**
1.1 Introduction
1.2 Background of consultants
1.3 Technical Education & Industry Scenerio

**Chapter II The Promoting Body**
2.1 Introduction to its genesis, including registration status
2.2 Details of promoters including their background
2.3 Activities of promoting body including listing of major educational activities undertaken till now.
2.4 Mission of the promoting body
2.5 Vision of the promoting body

**Chapter III Objectives and Scope of Proposed Programme**
3.1 Objectives of the Institution
3.2 General and Technical Scenario in the state
3.3 Status of entry level
3.4 Status of technical manpower
3.5 Industrial scenario of the state
3.6 Scope of the college vis-à-vis the industrial scenario and educational facilities already in the state and the institute.
Chapter IV: Academic Programmes
4.1 Basic academic philosophy of the institution
4.2 Types of programmes: UG, PG, Ph.D.
4.3 Identified programme
4.4 Phase wise introduction of programmes & intake
4.5 Target date of start of Academic Programme proposed
4.6 Central computing facility
4.7 Central Library: services, resources, book bank
4.8 Central workshop
4.9 Central Instrumentation Facility
4.10 Affiliating body
4.11 Scholarships
4.12 Book bank

Chapter V: Salient Features of Academic Divisions
5.1 Classification of Academic Divisions: Departments, centers, schools, central academic facilities cell, etc.
5.2 Details of each Academic Department/Center
  5.2.1 Academic objectives
  5.2.2 Areas of focus
  5.2.3 Academic programmes
  5.2.4 Faculty requirement and phase wise recruitment
  5.2.5 Requirement of laboratories, space and equipment (cost)
  5.2.6 Requirement of other facilities like class rooms, faculty rooms, departmental office.

Chapter VI: Quality and Human Resource Development
6.1 Academic values
6.2 Recruitment, strategies for attracting and retention of faculty personnel for excellence, promotion avenues, career ladder.
6.3 Policies for teaching and non-teaching staff development.
6.4 Permanent and contract services for teaching, non teaching and other support personnel.
6.5 Total Quality Management

Chapter VII: Linkage in technical education
7.1 Introduction
7.2 Linkage with the industry
7.3 Linkage with the community
7.4 Linkage with other technical institutions in the region.
7.5 Linkage with institutions of excellence.
Chapter VIII: Governance and Academic & Administrative management

8.1 Philosophy of governance
8.2 Board of governors
8.3 Organisational structure and chart for day to day operations at the institute level.
8.4 Role and responsibilities of key senior persons.
8.5 Methods/style of administration/management

Chapter IX: Master plan for main campus development: class rooms, library, computer centers, hostel, canteen faculty rooms, administrative blocks, auditoriums, sports and recreation facility.

Chapter X: Requirement of staff, space and equipment and their cost.

10.1 Introduction
10.2 Faculty
10.3 Non teaching staff
10.4 Buildings: Area and cost
10.5 Estimated cost of equipments
10.6 Phase wise financial requirements
10.7 Strategies for financial resources mobilization

Chapter XI: Action Plan for implementation

11.1 Activity chart
    Curriculum, recruitment, purchase of equipment, hardware/software
11.2 Constraints
11.3 Financial outlay
11.4 Strategy for implementation

Chapter XII: Executive summary of Detailed Project Report (DRR)

12.1 Details about the promoting body
12.2 Details about the proposed programmes
12.3 Development plan for the proposed programmes for next 10 years, project cost & schedule.
    • Declaration by head of the institution
    • Annexures
Questions:
1. What is the importance and what are the applications of technical proposals?
2. Define a technical proposal.
3. What are the different purposes for which technical proposals are necessary?
4. What are the different types of technical proposals?
5. For what type of activities and by what agencies the business proposals are invited or are required to be submitted?
6. What are the agencies, inviting research proposals? What are the different modes of inviting research proposals? What is expected from the research proposal?
7. What are the agencies inviting or accepting educational proposals? What activities are considered under educational proposals? What is expected from the educational proposals?
8. Why accreditation is necessary? Mention some accrediting agencies for different types of institutes or activities? What is expected from accreditation proposal?
9. Discuss the characteristics of business proposals.
10. Discuss the characteristics of R&D proposals.
11. Discuss the characteristics of educational proposals.
12. Discuss the characteristics of accreditation proposals.
13. Discuss the general points, related to the structure of technical proposals.
14. With reference to introductory part of technical proposal, explain the requirement and details of cover page, title page, covering letter and summary of proposal.
15. Explain a typical format of technical proposal, specified by an US consultant.
16. Explain the format of proposal for developing a laboratory, under MODROB (Modernisation and Removal of Obsolescence) scheme of All India Council for Technical Education.
17. Explain the general format of research proposal required at the time of registering for Ph.D. under any university.
18. Explain the general format of research proposal for a funded project.
19. Explain in detail, the features of a proposal for the post graduate programme to be started by an institute or a university and to be submitted to AICTE.
20. Explain the structure of the detailed project report to be submitted with the PG proposal to AICTE.
CHAPTER XIII
TECHNICAL DESCRIPTIONS

XIII.1 Introduction:

In engineering education and industry, we come across many equipments, objects and mechanism. In the teaching learning process, it is necessary to describe the construction, principle and working of these devices for the understanding of the teachers and students. In case of an industry, these concepts are necessary for the trainers and trainees, both. This description is quite different than operating instruction manual. There, the instructions are given to operate the equipment or use the instrument. When a microprocessor, a microcontroller or a programmable logic controller (PLC) is to be studied, it is necessary to study the internal details of the device. The technical description explains all these details. Similarly in chemical, fertilizer, petrochemical, pharmaceutical industries and in general in all the industries, some product is developed. Starting from the raw material to the finished product, number of stages may be involved. At each stage, some process may be involved. The process may be thermal, chemical, electrical, mechanical, hydraulic, pneumatic or any other type of process. For understanding of the process by the students, teachers, technicians and engineers, the description of the process is necessary. Without understanding the process, it can not be controlled and quality of the product can not be ensured. While describing the product or a process, the level of target group should be kept in mind. For technical persons of the same area, technical details are appreciated. For others, it should be simplified.

The technical description may be related to some research work, new development in the technical field, specific work done by some technocrat, a product, a problem solving methodology, some innovative approach, technical job experience, contribution by a scientist or an engineer, tools, techniques, equipments, or improvement in methodology. Technical description gives detailed information about constructional features, composition, appearance, shape, size, working principle and actual working. Higher level of technical description may result in the following forms.

- Technical article in a technical publication.
- Brochure: It covers the details about a technical event by students, training activity, technology conference, technical workshop or a technical exhibition.
- Report: Detailed description of an activity or some major equipment may be in the report form. The reports may convince the readers about the merits of the product, a process or a plant.
- Leaflet: It covers the detailed description about the instrument or some equipment, along with technical specifications. It is targeted at probable customers. It also helps the agents, to sell the product.
• Manuals: Technical manuals help the users to utilize the equipment in a proper way. It is useful for the domestic consumers and the operators in the industry. It also helps the service engineers, in maintaining the equipment.
• Technical description is a description of an object, a product or a process. It describes the construction and also, how it works.
• Before description, some of the five senses are used to collect the details if possible, measurements are taken. The change of motion is described with a specific context. Related diagrams, photographs, videos, graphs and information from experts may be useful in the description.
• Shape, size, material and appearance of the equipment can be described.
• The working principle and actual working are described.
• Sequence of description is based on construction or operations.
• When the description is for public awareness or marketing purpose, the best organisational strategy may be considered.
• Concrete details and precise information language are used.

Object Description:
• Object description starts with introductory part, defining the object, scope and purpose of the description.
• The construction and working of the parts is arranged in a sequence decided by the construction, the function or a chronological sequence. If the parts are numbered, the description may follow numerical sequence.
• In summary, overall construction, working and design features are highlighted.

Process Description:
• Introductory part defines the process, scope and purpose of description.
• Initially the process is overviewed in brief. Necessary background is covered. The process is divided into various parts.
• At a time, one part of the process is defined, its purpose is stated. If necessary, further subparts of the process are described to explain it.
• One by one, all parts or steps of the process are explained.
• In summary, complete cycle of the process is reviewed and outcome of the process is highlighted.
• This process description makes the reader aware about the whole process. If the reader has to carry out the process himself, he requires a different set of instructions.

The technical description may be in the form of operational manual, product specifications or marketing/sales literature. The operational manual dispatched with the product, helps the user to install, operate, service and maintain the product. It highlights the technical features and capabilities of the product.

Product specifications cover the constructional and operational features. It may be supported by diagrams, graphs, numerical data and circuit diagram for electrical and electronic products.
Sales literature is for promoting the sales of product. It is in the form of letters, brochure, or proposal. Depending on the target readers, it may cover technical details, as well as, application and commercial aspects.

XIII.2.1 Guidelines for Technical Description:
A specific topic is selected or assigned by somebody. The topic may be related to a machine, equipment, instrument, process, technology, design or a methodology. The probable target group is identified. The target group may have specific requirement. Students have theoretical or conceptual requirement. The customers require the information that will help them in the purchase decision. The retailer or an agent requires it for sales promotion. The government may require the description to monitor the import and export of goods. One such format is as follows.

XIII.2.2 Details of Technical Description:
- Type of equipment: Mechanical, electrical, electronic, etc.
- Materials of Construction: Steel, wood, glass, fibre, etc. In case of electronic components active, passive, MOS, CMOS, etc. may be mentioned.
- Working of equipment, nature of input, output and method of measurement.
- Schematic diagram, and detailed diagram or photograph, showing the construction of the equipment. In case of electrical or electronic system complete circuit diagram is required.
- Application of the equipment.
- Shape, size, dimensions and volume.
- If the equipment is used as part of some major equipment or a system, it should be explained.
- Part number can also be specified.

XII.3 Suggestions for Effective Technical Descriptions
(i) Appearance or composition of equipment, object, substance, mechanism, organism or system can be described by anticipating queries from the users, purchasers or readers.
(ii) The purpose and use of the technical description also helps in deciding the details.
(iii) The technical description may be related to field study, scientific research, operating manual, orientation and training, product description, marketing, promotion, public awareness or education.
(iv) Considering audience background, need and expectations, the material can be prepared.
(v) The description may be subdivided according to structural parts or functional parts. Physical characteristics of each one can be covered.
(vi) The description should be precise, with concrete words.
(vii) Diagrams, photographs, layouts, circuit diagrams, cross section views and blue prints are useful in the illustration.
(viii) The description may start with definition, purpose statement or objective of the document.

(ix) The description may proceed from top to bottom or left to right of the equipment or from the innermost to the outermost part or the outermost to innermost part. Some components may have more functional importance. The sequence may also be decided by functional priority.

(x) Finally, the overall construction and working may be explained.

XIII.4 Components of Technical Description:

Introduction: Object, product, mechanism or process to be described is identified. Necessary background required by the reader is covered. General description of object, product, mechanism or process is given. The whole technical description is overviewed.

Background: The related information to understand the description is covered. Some new information may be given. The description may be targeted at experts or non-experts.

Parts: The object is divided into different physical parts and explained accordingly, in proper sequence.

Characteristics: The important features of the equipment or process are highlighted.

Visuals: With the help of visuals, the information is clarified. Necessary illustrations are given. The key points are highlighted. Important information is emphasized and the various points are properly linked. Visuals help in drawing audience attention, make the description more authentic, help the audience in content retention and by multimedia reach a larger group.

Description: The details of description are decided by the user’s need. It should employ all the five senses of the users. It is organized depending on the subject and users’ need. It is a series of small descriptions.

Strategy: The description may proceed from general to specific or specific to general.

Spatial Organisation: This type of description is based on physical location and is useful for description of parts of the equipment.

Chronological organisation: The events in a process can be described as per the sequence of occurrence.

Headings: The description of various parts or sub processes is covered by different paragraphs with specific headings. It guides the reader in reading.

List of Parts: Some equipment may have large many components. In diagrams the parts are labeled and description keeps track of the list.

Warnings: In use of the equipment, some precautions are mentioned for the safety and security of the equipment, instrument and user or an operator.

Objectivity: The judgement about the quality of the product or process should be left to the users.
Usability: The technical description should ensure that it can be used and understood by the reader without any cross reference and will serve the purpose of the target group.

Questions:
1. What is meant by a technical description? What are the different forms of technical descriptions?
2. What is the difference in the technical description of an object and technical description of a process?
3. Discuss the guidelines for preparation of a technical description.
4. What details are covered in the technical description?
5. What are the suggestions for effective technical description?
6. Explain the various components of a technical description.
7. With reference to components of technical description, explain introduction, background, parts and characteristics.
8. With reference to components of technical description, explain visuals, description, strategy and spatial organisation.
9. With reference to components of technical description, explain chronological organisation, headings and list of parts.
10. With reference to components of technical description, explain warning, objectivity and usability.
CHAPTER XIV
TECHNICAL REPORTS

XIV.1 Objectives of Technical reports:

In the world of science and technology, technical reports are extensively used. The report may be prepared individually or by a group, usually appointed for the purpose. It basically compiles the description about some process, it may be progress of some activity or an organisation or a scheme. It may be in the form of results of a research or a survey. For journal or conference publication, the format is standardized. The technical papers or articles are reviewed and edited by the editorial board or referees. Reports are usually for the purpose of review. Sometimes it is mandatory by the funding agency. Some times, big organisations and government departments publish the reports for the benefit of the public and stake holders.

Depending on the objectives, there may be different types of reports. Laboratory reports, health and safety reports, research reports, progress reports, case study reports, field survey reports, cost analysis reports, proposal reports, technical reports and financial reports are the different types of reports. Reports are also aimed at finding advantages and disadvantages of the project. Reports may be related to physical description, process analysis, examination, laboratory and design. Technical reports are also classified as technical background report for information on a technical topic, instruction report for the activity or equipment, feasibility report for viability of a project, primary research report about experimentation and survey, technical report may cover construction, working, special features and market potential of a new product, proposal reports are very detailed one, including feasibility analysis, literature review, etc. Business prospectus is also a report targeted at investors.

XIV.2 Structure of Reports:

Shape: The reports may be typed or printed. The report may be in a bound form, if it is to be submitted outside.

Cover page: Depending on the number of pages spiral binding, strip binding or hard paper binding is used. Standard A4 size, unlined, white plain papers are used. Hand written report is discouraged. The report usually starts with a cover page or the title page. The cover page covers title of the report, the name of agency or individual or group submitting the report, with complete address and contact details. It should also indicate the agency to which it is submitted. The actual date of submission along with signature of authorised signatory, with stamp and due date may be printed. Some of the government, semi government or private reports are referred by many people. They are published like a book. It is a prices publication. They may be given ISBN classification number in some cases.
Summary: After the cover page, the successive page(s) may cover the summary of the report. It gives some idea about the purpose and scope of the report.

Index: The index or table of contents, with page wise references is desirable. It gives clear cut idea, about the details covered in the report. If the report is very lengthy, just like a book, the index helps in referring particular part of the report. If somebody is interested in the particular process or procedure, it can be referred on specified pages. If somebody is interested only in results or conclusion, it can be referred accordingly.

Introduction: The main part of the report follows the introduction. If the report is about some research or experimentation, it is necessary to explain the actual problem. Why it was necessary to carry out the concerned research? If some disease or epidemic is not easily controllable, it may be leading to many untimely deaths and for the government, it may be creating a lot of socioeconomic and political problems, it may be necessary to carry out systematic research. In case of riots or floods or mass killing, the public opinion forces the government to appoint a committee for the investigation. What is the actual problem for the research or investigation that should be specified in the introduction, it defines the scope of the research or the investigation. How the research was carried out or what was the nature of investigation or experimentation that is specified here. Thus, it defines the background, which specifies technological, economical, social, political, legal condition under which the research or investigation was necessary.

Main body or Core: The main body or core of the report is covered here. It first tries to identify the problem. How the problem was originated and what are the actual symptoms of the problem? The symptoms may be qualitative, quantitative or combination of the two. If the problematic event is a one time event, at what time and under which condition it took place? In case of a recurring problem, what are the factors leading to the problem? It is also necessary to know the exact time of occurrence of the event. The time frame helps in identifying other factors leading to it. If the problem has some geographical origin, it should be considered. In case of organisational problems, the section or department of origin is considered. If the problem is equipment related, the part creating problem should be mentioned. For a research or an investigation, usually the team is mentioned. The team includes the principal investigator and his team members. The research or investigation group follows some process or procedure in tackling the problem. If some hardware and or software are used and if some experimentation or analysis is done, it should be described at length. In a survey report or a legal investigation, the exact procedure followed should be covered in detail. This part basically deals with tools and techniques. In case of a software based problem, algorithms and flow charts may be covered.
Results: In technical and scientific research, based on investigations, results are derived. The results are usually presented as observation tables giving a lot of alphanumeric data. The results are tabulated. Using the observations, some graphs and histograms are developed. The errors, means and standard deviations are found. In electronics, waveforms are recorded.

Conclusion: After getting the results, a lot of statistical analysis is done. To derive fruitful conclusion, large number of proper samples are taken under proper condition. If the condition is not proper, if the sample size is less and if the samples are not proper, the process may give wrong conclusion.

Recommendation: The research or investigation is done for a specific purpose. After completion of the research or the investigation, the results are analysed. There is some conclusion of the work. Using the conclusion, recommendations are made for the future course of action. When some new medicine is developed, clinical trial is taken. The results of clinical trial, lead to some conclusion. If the medicine is able to cure some disease with excellent success ratio, regular production of the medicine can be taken up. If some diagnostic tool is developed and gives nearly 100% sensitivity and specificity, it is recommended for commercial production/application. If the research is original and the results are acceptable, the work can be recommended for a Ph.D. or a patent or an intellectual property rights (IPR), as the case may be. If the research is for a new process, procedure or material, with encouraging results the new process, procedure or material is recommended for routine practice.

References & Bibliography: For any research work, a lot of papers published in journals and presented in conferences are available. Some of the background may be available from some latest authentic books, also. Research is usually the extension of the work done by others. From failure and success of others, researcher learns many things, about various tools and techniques. In this process, he may strike at some new ideas. He can develop some new techniques. In science and technology, there is a tradition of expressing sense of gratitude to other researchers and authors by mentioning the references and books in a specified standard format. Nowadays, due to internet and website, there is an explosion of information. It is an art to scan large number of references and select the relevant references.

Appendices: While writing the report, the researcher or the investigator has a lot of material. He tries to arrange the material in a logical sequence. The flow and content should be such that one can easily read and follow the report. In this process some information, particularly factual data, is necessary to make the report authentic. If all the information is covered in the main body, the flow is not
smooth. Such data is usually covered at the end, as appendices. In the text the reference is given as Appendix I, Appendix II, etc.

XIV.3 General Guidelines:

As mentioned above, the body or core of the report is meant to meet the objective of the report. The report is related to some research, study, analysis, survey, investigation or inquiry. When the work is assigned or started, the objective and scope of the work is defined at length. The report should be able to justify all aspects of the work. The whole report is divided into number of chapters. The introductory chapter starts with the introduction of the problem and scope of the work. The description in the report should follow the proper sequence. If some background or review is necessary, it should be covered first. If a new process, a procedure or a design or a product is developed, the existing products or processes should be compared. Their advantages, disadvantages and limitations should be covered first. In some reports, more than one issue may be dealt with. One option is to decide the priority of the issues and treat them as per their priority. Some reports are to be published like a book. The report may be referred by a large number of people and common public with varied background. In this case, the language of the report should be easy to follow. Initial part of the report should be able to create the interest. It should induce the readers to go through the whole report. Regarding some event, sometimes there is a bias in the minds of the people. The fact finding report should be able to clarify the doubts and should be able to give clear picture of the situation.

The scientific and technical reports search for alternative products, process, procedure, design or material. Positive and negative aspects of all options should be covered and justified. In science and technology, there is a tradition of experimental validation, before coming to any conclusion. The experimental setup, procedure and results should be documented properly. The common reader may be lost in the numerical data. It is preferable to give charts, flow charts, algorithms, graphs, histograms, etc. When new options are to be analysed, cost effectiveness is the most important consideration. At present, carbon emission and global warming are the most critical issues affecting the environment. Depending on the subject area of the report, the socio economic aspects and environmental issues should be addressed properly. Some review of other works or problems is desirable but, it should not unnecessarily add to the volume of the report.

The report should be self explanatory and in a simple language. Proper fonts should be used to highlight various chapter titles, subtitles and important points. Underlining is not desirable in reports. Spelling and grammar mistakes should be avoided. In case of a social study or legal investigation, the language and reference to different people should be handled trickily. It should not unnecessarily lead to a political or a social unrest or a legal complication. Sections and
subsections in the report are usually numbered. Pages are also, numbered sequentially. To make it easily understandable, it may be necessary to clarify some concepts but, it should not become a teaching manual. The analysis and conclusion usually depend on the size and the quality of data. The method of data acquisition may be covered, if necessary. Tables and figures are also given numbers and may be listed separately.

XIV.4 Types of Technical Reports

XIV.4.1 Technical background report

This type of report is a technical description, to give some background of topics like wind power, environment protection, VLSI technology, etc. The other technical writings may be for the general understanding of students, teachers or a common public. Here, the target audience is not specific. Technical background report is usually meant for a specific group. While inviting proposals for hospitals, engineering institutes, technical survey, etc. the government, semi government and private organisations may give some background about the requirement. In many cases, the proposers may be nontechnical persons or persons with different specialization. Such technical description may help them in understanding the requirement of the problem or actual issue to be tackled. Such reports are usually provided on request basis and may be priced publications.

XIV.4.2 Instructions Report:

When the students perform the laboratory experiments, to record the procedure, they describe it in the instruction form. For uniformity, teachers also, prepare standard instruction manual for the students. It may be typed and given in advance, so that the students can perform the practical systematically. It covers objective or aim of the experiment, instruments required to carry out the experiment, some theoretical concept necessary, procedure of actual experiment including some precautions necessary for the safety of the instruments and users. After performing the experiment the students write observation table, draw graphs, carryout some calculation, report the results and draw conclusion.

When equipments are manufactured and marketed by the manufacturer, it requires some guidelines for the user. Printed operating manual is supplied with the instrument, equipment, hardware and software, so that the users can use them properly, taking full advantage of their capability, ensuring safety of the equipment and the user.

XIV.4.3 Feasibility Study Report:

When a new product is to be developed or a new technology is to be adopted for the existing product, or a model is to be changed or a new manufacturing process is proposed, feasibility study is necessary. Some experimentation may be done on the prototype, alternative technologies may be studied, various procedures may be
analysed and different revisions of models are tried. In some cases, the data of other workers and agencies may be collected. Market survey for demand and supply may be carried out. After experimentation, analysis, study or survey the final outcome is expected. The report may justify or otherwise, the new product, technology, procedure, model or technique. The justification may be based on the state of art technology and its awareness, available or trainable manpower, availability of equipment and material, infrastructure, resources, etc.

XIV.4.4 **Recommendation report:**

When a government, semi government or a private organization, gets number of offers from different persons or agencies or organisations for a specific work, the offers are critically reviewed by the expert committee. The parties may be given the opportunity of presentation and demonstration. After this exercise the committee prepares and submits a report, to accept a particular product, procedure, technology, option or offer by a particular party. The decision may be based on the capability of the proposer and financial considerations. In a purchase committee recommendation, negotiations and discounts are also helpful.

XIV.4.5 **Evaluation Report:**

Within the organisation also, for implementation of a new policy, some committee may be appointed. Suppose, laptops are be given to all executive officers or professors, the evaluation procedure considers number of laptops required, available models, total cost involved and effect on the working efficiency may be evaluated, qualitatively and quantitatively. Report of the evaluation committee helps the management in taking the decision. Similarly, for a syllabus revision, assessment scheme, result analysis, ragging, student discipline, proposal for new courses, etc. issues committee may be formed and may give report.

XIV.4.6 **Primary Research Report:**

It may not be related to some original work. Some experimentation may be done in house or some external facility may be used for the experimentation, some supporting survey may be carried out. The experimentation and survey work generates some data, which is analysed to draw conclusion. The report may cover the experimentation, equipments, hardware, software, infrastructure, background of the problem and final outcome of the research.

XIV.4.7 **Technical specifications:**

While marketing the product, two types of manuals are used. Commercial manual describes the general details and cost aspect. The technical manual covers the detailed specifications of the product. It covers construction, materials, dimensions, size, weight, functions, operational features and special features. It may also, cover the market potential. A lot of alphanumeric data, tables, graphs, pictures are involved here. The stress is not laid on the quality of language but,
facts and figures, highlighting the quality and performance characteristics of the product. It is aimed at convincing the consumer. For smaller consumer goods, the presentation style may be simple. For major items, with high costing, the target readers may be purchase officers or marketing managers. Some better style of presentation is preferable.

XIV.4.8 Report Length Proposal:

Some proposal report may be the result of years of work. Large number of people may be involved in the study and analysis. The population of samples may also, be very large. Such reports are published in a book form, by many government and semi government agencies. Many private industries and organisations can use such reports for their activities. In addition to some common features, it may include feasibility study, literature survey, qualifications of investigators, and other persons involved in the process. Sometimes, this type of report may be the compilation of many other reports. The scope of the report is very wide. Large many details are covered here. For certain technological aspects, the government may establish some technical commission, which goes in to the details of such issues. At the end of the specified period, it comes out with the report.

XIV.4.9 Business Prospectus:

To start a new business or to expand or diversify the existing business, the businessman or an entrepreneur requires support of other people. There may be private financiers, state and central governments or private and state owned or approved financial institutions, banks, etc., which may help for the said activities. The businessman or an entrepreneur has to prepare the blue print of his business plan. The business activity should be described at length, the market potential should be identified, the capacity of other manufacturers or businessmen should be reviewed, the import and export problems should be covered, and total plan of full fledged activity should be developed. The requirement of manpower, infrastructure, etc. should be studied and reported. In some cases, phase wise plan for five or ten years may be proposed. Initially profitability may not be there. By future projection, the breakeven point and state of profitability should be forecasted.

Only some forms of technical reports are highlighted here. Depending on the nature of activity, there can be many more types. It is difficult to generalize all of them. The nature of report also, depends on the target group and condition. It is necessary to identify the customers of the product, the type of information required by them and how the information will be useful to them.

The technical report should ensure all the components necessary in it and in proper sequence. If the target group needs some background to study the report, it should be covered. The information should be factual and purpose specific.
The technical reports can also be classified as following types, based on the objective.

- Progress reports
- Trip reports
- Equipment evaluation reports
- Laboratory report
- Summary report
- Data Archival report
- A technical activity report
- Inspection report
- Investigation report

The technical report may include covering letter, title page, abstract, acknowledgements, executive summary, table of contents, list of figures, list of tables, report body, references and appendices.

XIV.5 Characteristics of a Technical Report:

Shape and Size: The report may have 8-10 pages, typed or printed in proper format, with proper margin and spacing. The upper size of the report is related with time, efforts and resources. If necessary, trim it as per requirement.

Content: The reports should be easy to follow, for a non technical person or a non specialist. The necessary technical details may be covered but, over doze of technicality should be avoided.

Facts: As per the objective of the report and requirement of the target group of the agency assigning the job, the facts and figures should be covered. The necessary detailing of facts should not be sacrificed.

Sources: The technical report is the compilation of information from various sources, like publication in journals and books, technical brochures, personal and written communication with experts, site visits, surveys, etc. The sources of information should be reliable.

Documentation: As mentioned, the information compiled in the report is collected from different sources. There is a tradition of acknowledging the sources as references or other modes. This transparency will be liked by the original writers. All the information, data, opinions should be well documented.

Target Readers: Some times, the report is prepared by a committee, appointed for the purpose. So, it is ought to be specific. In other cases, it is desirable that the report aims at some specific group, so that it can meet with the expectations of that group. Too general report may not be useful to any body.

Titles and subtitles: The report may cover different aspects of the work. They may be given some titles or headings. In case of a detailed report, under each title, there may be a lot of content. It may be further sub divided in to subtitles. The titles and subtitles, help the readers in discriminating one topic or an aspect from the other and one subtopic from the other. On the writer side, it helps in proper
organisation of the report, with proper focusing and on user side it helps in proper understanding of the report. If somebody is interested in a specific aspect of the report, he can refer accordingly.

Physical Arrangement: The physical presentation of the report is concerned with typing and printing. The graphical or pictorial information may not be reproduced properly in computer or machine printing. Photo copying or scanning is advisable. A loose report or a strip binding or a spiral binding is not impressive and durable. Hard paper binding is advisable.

Graphics: In addition to description in alphanumerical form, the reports may have graphs, line diagrams, photographs, histograms, tables, pie charts, bar charts, line graphs, flow charts, block diagrams, etc. Graphics makes the report to be followed easily, more illustrative and authentic. It is an art to make the report impressive, by using graphics.

Questions:
1. Explain the objectives of the technical reports.
2. Enumerate the different parts in the structure of the technical reports.
4. What is contained in the main body or core of the technical report?
5. With reference to structural components of a technical report, explain results, conclusion and recommendation.
6. With reference to structural components of a technical report, explain the use of references, bibliography and appendix.
7. Discuss the general guidelines, to prepare a good technical report.
8. Enumerate the different types of technical reports.
9. Explain the nature of technical background report.
10. Explain the nature of instructions report.
11. What is a feasibility study report?
12. What is a recommendation report?
13. Give some idea about evaluation report.
14. Give some idea about primary research report.
15. What is the use of a technical specifications report? What features are covered in a technical specification report?
16. What is a report length proposal? What are the general features and what are the special features of this type of report?
17. Who prepares the business prospectus? Why a business prospectus is required? What points are covered in a business prospectus?
18. Discuss in detail, the characteristics of the technical reports.
19. With reference to the characteristics of technical reports, explain shape and size, contents, facts, sources and documentation.
20. With reference to the characteristics of the technical reports, explain importance of target readers, titles and subtitles, physical arrangement and use of graphics.
Appendix

Model Speeches

Speech at Technofora 08

Dear Mr. Buch, Director Essar Gujarat; Director, Institute of Technology, section head IC, student office bearers ......

At Nirma, we stress on all around development of the students. Our students have proved their excellence in academics. At the same time, they are leading in co-curricular activities. There are about 15 student forums, keeping the campus humming with the activities. This all round development, has led to 100 percent placement of our students, at national and multinational companies, with good salaries. This institute has become the dream destination, of students craving for engineering education.

ISA is the body of professional engineers in instrumentation and control engineering. It started as Instrument Society of America and in globalization it has become International Society of Automation. It is the largest professional body of instrumentation and control engineers. At this institute, we have successfully completed ten years of ISA student section and I am proud to be the faculty advisor for the same for ten years. It has scored hat trick of ISA foundation student scholarship awards. Technofora is the annual event of ISA student section at this institute. The basket of technofora 08 is rich with beautiful flowers of activities. It has attracted about 500 student delegates from all over India.

Mission Chandrayan lecture series has provided a launching pad to our ambitious programme. Mr. Buch has brought reinforcement of Essar Steel, to our aspirations and lubrication of Essar Oil to the engine of our activities; with the blessings of well wishers, sponsors and technical supporters like ISRO (Indian Space Research Organisation), the event is launched to conquer the height of the moon. The student organizers and dynamic faculty members are trying to drive you in top gear through the event. I hope you will enjoy your two day pleasure trip, full of technology, techniques and tug of war to create testimony of your talents.

Welcome and best luck to all the participants.

-------------------

Technoddysy  Inauguration 21/10/05
I am pleased to welcome Shri K.K. Shah, Vice President of Torrent Power. Today, we have rendezvous of two big entities in this region. AEC/Now, known as Torrent Power, is known from the days we started using electricity in the city of Ahmedabad. The other one is Nirma Industry, known from the day we became conscious about our beauty and glamour. Torrent/AEC is involved in lighting our houses and homes. Nirma industry is involved in brightening our faces and clothes. Institute of Technology/ Nirma University is involved in enlightening the minds of engineers of tomorrow, with the light of knowledge. Nirma and Torrent AEC are geographically, near ones. We are in the process of becoming dear ones. We are working on a proposal of part time degree programme of power engineering, for diploma holder engineers of Torrent AEC. If it materialises, it will be a turning point, for the power sector industry in Gujarat. At this institute, our mission statement aims at not producing only good engineers of to-morrow but, their all round development and worthy citizens of this great country. We have a large number of student forums chanelising technical student activities throughout the year. IEEE – Institute of Electrical and Electronics Engineers, now also covering computer and IT, is the biggest professional body throughout the world. I am proud to inform you that our student branch was inaugurated by Mr. Kenneth Laker, the then President of IEEE in year 2000. During last five years, IEEE branch has arranged number of paper presentation and model making competitions, workshops, lecture series; awareness programs for first year students and so on. Today we are here with the beautiful basket of state level, two day event with number of workshops, paper and poster presentations.

On this auspicious occasion, it is my proud privilege to welcome the Vice President of Torrent Power, as the chief guest of this function. His electrifying presence will charge us for the next two days, to work without fault. I also, welcome and greet our director on his birthday and wish that his non exhaustible source of energy will continue to contribute to the growth of the institute. I welcome all our heads of the departments and faculty members for their worthy presence. I also, welcome our judges, invitees and well wishers to impart elegance to our efforts.

At the end, I heartily welcome our student delegates from distant corners of Gujarat. I also welcome our own students.

I wish all the student delegates, best of luck for the test of their talents. To win is not important, winning spirit is important. Achievement is not important, efforts are important. Prize is not important, participation is important. Success is a journey, not destination.

Thank you, one and all.
Inauguration of Technofora 2003: Vote of Thanks
Shri Varuneshkumar, Shri Jagdish Shukla, Director, HODs, faculty, invitees, delegates, student friends

I am glad to express gratitude to galaxy of guests: Varuneshkumar, Viral Controls for warming up the workshop by Valuable Presence, Jagdish Shukla, Soft spoken section chair ISA, Gujarat section for adding feather of friendship in our function, dynamic director for due direction to unfold hidden values of students, ISA team for marching ahead with torch of ISA activities – 5 years of ISA, NIT, Excellent Expert Lectures, Entrepreneurship competition, Student Lecture Series; Seminars on DCS, Control valves, state level paper presentation competition. Technofora 03 is again here, with a lot of activities and Magical Mag IC 3 – the third issue of magazine of ISA student section. I am thankful to the heads of the departments for honouring us by one hour presence with us, faculty for fuel of friendship, administration for admirable assistance, dear delegates for delightful dedication and deliberation to follow, scholarly students for sustained support. We are highly obliged to the sponsors for their financial and technical support. We are grateful to the technical experts for sparing their valuable time.

I am thankful to the guests for gracing, glorifying and glamourising our function, invitees for their invaluable involvement, organizers for overcoming all the obstacles, audience for applauding our efforts.

Your presence is our prestige and prosperity.
Your support is our success.
Your comments converge to our confidence.
Instrumentation Systems Automation ISA section seeks, your Inspiration Support and Appreciation to prove itself, Intelligent Student Association.

Thank you one and all.

Prof. (Dr.) M. D. Desai

Speech at District Leadership Council of International Society of Automation
Respected ISA President Mr. Ken Baker, Mr. Billiwalsh, Ken Hilgers, Mr. RamNathan, Mr. Jagdish Shukla and other delegates

I am associated with the teaching in engineering college for last 40 years. In 1971 Govt. of Gujarat anticipated the need of instrumentation and control manpower, looking to the growth of chemical and petrochemical industries in the state of Gujarat and around. So, for last 35 years I am associated with teaching of instrumentation and control engineering. My first generation students are well placed in national and multinational
companies. Mr. Vyomesh Joshi, my first IC batch student has rose, to the post of Vice President of Hewett Paccard. Sons and daughters of my students are again coming as my students. During my spell at government colleges also, we tried for ISA student section but, it could not get much of momentum.

At Nirma Institute of Technology, we started ISA students section on 31 Dec. 1997 which was ignited by the firing pulse of inspiring inauguration by the then president from ISA head quarters. During last eight years, our ISA student section has ensured uninterrupted supply of activities. I am proud to be the faculty advisor of this most active student section in the state of Gujarat. During these eight years, our ISA section student officer bearers Kaushk Bhatt, Pratik Tahmne, Murtaza Gandhi, Nagpal, Dhwani Shah, Harsh Satyaparthi, Pramod Abhichandani and Sanket Mehta have become the torch bearers of ISA, and have made the torch brighter and brighter. Wind of globalization has opened the flood gates of challenges. But, like transducers, under ISA student section, our students have converted challenges into opportunities. They are active transducers. Like sensitive sensors, they have sensed the expectations of the industry. Nowadays, what you know is not important, what you express is important. Profibus/fieldbus network of the nervous system of students have tapped knowledge beyond class room. They convert information into intelligence. They cascade the concepts and adopt anticipatory control and tune the controller of their mind, for stable focused career, without transient oscillations of indecisiveness. This is not possible just by a magic stick. Our ISA students have put a lot of efforts in this direction.

They arrange seminars and workshops on topics like PLC, DCS, Matlab, virtual instrumentation, biomedical instrumentation, etc. They arrange paper presentation competitions, project competitions, management case studies, on line LAN gaming, technical quiz and expert lectures. This year, they arranged a romantic game in which Robotic soldiers tried to break open the castle and win the heart of Helen of Troy. All these activities arranged by ISA student members have become their trade mark in the name of Technofora. The event has broken the boundary of the institute, crossed the border of the state and has become a national level event. Every year, they publish technical magazine, magical Mag-IC, reflecting the achievements and aspirations of these students. I am proud to say that our IC/ISA students have scored hattrick by getting ISA education foundation scholarship award for the third time. The first time Mr. Murtaza Gandhi, second time Mr. Harsh Satyaparthi and third time Mr. Sanket Mehta, got this award of $4000. He is herewith me. He deserves congratulations from all of us. Due to these activities and all round development, our IC students could face the hurricane of Information Technology.

Even national and multinational IT and software companies, give warm welcome to our students.

For arranging all the activities, we have some mis-concept that in government and other colleges funds may not be available. Our students arrange all these activities on self finance basis. Thirty percent rebate by ISA is not sufficient. Students plan and implement
these activities. Marketing and managing the event is also, part of the training. Fund is not the problem for them. Our student friends just require irrigation of inspiration.

Monsoon of motivation
Aroma of Appreciation
Sunlight of Sympathy
to Reap, rich crop of competence.

Thank you,

- Prof. (Dr) M.D. Desai

---------------------

Speech at Felicitation Programme : Nirma Institute
Respected Shri Karshanbhai, Chairman Nirma, Shri Ambubhai, Dr. Vasani, Dr. Singh, Dr. Trivedi, heads of the three institutes, administrative heads, faculty, staff, family members and invitees

Lord Krishna said, when ever the religion sets back, for the upliftment of the religion, I bring myself on the earth.

In Gujarat, when there was a deficit of engineering colleges, quality of technical education was going down, our children had to go to other states, inspite of paying heavy fees, they were not getting proper education. They were facing problems of lodging and boarding and were facing financial problems, every year crores of rupees were drained to other states. Under this condition, in year 1995, the architect of Nirma group of industries, Shri Karshanbhai Patel stepped in the realm of technical education, with Nirma Institute of Technology, Nirma Institute of Management and Nirma Institute of Diploma Studies under the banner of Nirma Education and Research Foundation (NERF). In the battle field of Kurushetra Lord Krishna did not hold the weapon but, just his presence brought victory for Pandavas and truth. Holding the rein of NERF by Shri Karshanbhai brought alertness in the technical education of Gujarat. The spread and quality of education on this campus has been increasing continuously and consistently. Just in seven years, our reputation has crossed the seven seas. We are proud and privileged to note that Florida Atlantic University has awarded doctorate degree to him. He has not attended any management school, to learn the principles of management but, the business schools of the world, study his management principles. In the Kurukshetra (battle field) of technical education, with the reins of the chariot in the hands of Shri Karshanbhai, Shri Ambubhai Patel has accepted the responsibility of this war for religion as the managing trustee of NERF. He visits these institutes regularly and collects the minutest details of the day to day activities, he guides and motivates all. He is the advocate of strict discipline. In a short time span, these institutes have attained
astonishing achievements. Five engineering programs of Nirma Institute of Technology are highly accredited by the National Board of Accreditation. The continuous and consistent progress of the institution and highest quality of education are appreciated by Indian Society for Technical Education, with the best institute award. The credit goes to Shri Ambubhai. We take this opportunity to congratulate him.

The progress and success of any king and kingdom depends on the administrator or advisor. Prof. Vasani, first as the advisor and then as the executive chairman of NERF, has been utilizing, backgrounds of his bright career and rich experience of more than thirty five years in the various capacities like Professor, Vice Chancellor of Gujarat University and Joint Director of Technical Education, for the benefit of these three institutes. Under NERF, with his excellence and broad vision, the echoes of reputation of Nirma Institutes are heard at Florida Atlantic University, RMIT Australia, Griffith, Westminster, Lancashire, Natal, Mohawk Mc Master and many other universities abroad. Before tens of decades, Nalanda and Takshashila Universities had drawn the attention of the world. The credit of raising the Nirma Institutes goes to Prof. Vasani. The award of Ph.D. degree by Florida Atlantic University is the proof of his excellence. We congratulate him.

Dr. Trivedi holds the responsibility of the director of Nirma Institute of Technology for more than seven years. The students of eight degree and four post graduate programmes are conquering new heights of success. The name of Nirma students is shining at University examinations, at IIT and other techfests. The director controls the day to day working of the institute, guides the students and teachers. He arranges teachers training programmes, interacts with guardians and is engaged in many such activities, he never tires. Probably work itself is his tonic. We are proud that his able leadership is appreciated by Indian Society of Technical Education by the best director award. We congratulate him. I also take this opportunity to congratulate Shri Sandeep Trivedi and Shri Jayesh Patel for the best teacher awards on degree and diploma sides.

At the end, I thank you all and come to the end of my speech. I am grateful to the organizing committee for giving me this opportunity for felicitating all these people on behalf of Nirma Institute.

Prof. (Dr.) M. D. Desai

----------

Speech at Inauguration of Faculty Training Programme:
Honorable Shri SK Nanda, Secretary, Health & Family Welfare, Govt. of Gujarat: The Chief Guest; Dean NHL Medical College, President of the function; Shri Ambubhai Patel, Managing trustees, Dr. N. V. Vasani, Executive Chairman, NERF, Director NIT, Principal NIDS, HODs, faculty friends, invitees, friends from medical faculty and National Biomedical
Engineering Society and participants of Short Term Training Programme on Biomedical Engineering.

Nirma Institute of Technology was born in 1995, as the first self financed technical institute of Gujarat under the flagship of NERF, with the ablest leadership of Dr. Karshanbhai K. Patel, Chairman Nirma Ltd. It is followed by a large fleet of other self financed institutes. NIT is not known, only for the beautiful building and picturesque eye catching campus. It is known by the management married to mission statement, aiming at not only good engineers but, all round development of students, along with worthy citizenship. The campus is a cave of creativity. Infrastructure is incubating intelligent ideas. Faculty is faithful to the profession. Scholar students are attracted here. There are well equipped latest laboratories. Regularity at learning process and discipline are the passwords of this institution, logging in to quality education. University results are almost 100% and good ranks are attained by our students. Just in 7 years its reputation has crossed seven seas, just by quality education. The institute has MOUs with many reputed universities abroad. The institute is always humming with activities under the banner of student forums, some of which – ISA, IEEE are international. Last year, our students stood first in the Robotics competition at IIT Kanpur and represented India at Tokyo. Many of our UG programmes are highly accredited by NBA. TCS has given an A grade to our institute in 2001-2002. The institute offers 8 UG programmes. Impressed by the growth rate and prevailing facility, just in 7 years, AICIE has permitted us PG Programmes in electrical, chemical and civil engineering, along with MCA.

Faculty development programme is most important component of a growing institute. Every year, a large number of faculty members are deputed by the institute for M.Tech. & Ph.D programmes to IITs. A large number of inhouse, industrial and national level Short Term Training Programmes (STTPs) like this are arranged by this institute. During these 8 weeks we have arranged 8 programmes.

Bio Medical Engineering (BME) is a highly emerging area. I am thankful to ISTE/AICTE for permitting me, to conduct this programme, once again. I received large number of applications from all over India. I selected 36 participants, covering more than 25 institutes, from different states of India. Due to the budget limitations, participants from nearby states are called. The list covers GEC Modasa, Engineering College and Polytechnic at Mehsana, D Y Patil C.E. Kolhapur, PDVVPCE, Ahmednagar, Phinolex academy, Ratnagiri, SGIT and Vaishnav Institutes, Indore, CKPPE and SCE, Surat, SPCE Visnagar, LTCE, SPCE & DMCE: Bombay, PDACE, Gulbarga, SVMIT, Bharuch, GP, Himatnagar, AITC, Rajkot, GEC, Gandhinagar, NIT and NIDS, Ahmedabad. The participants range from lecturer, Sr. lecturer, HOD to principal. Our efforts are fruitful. We have put our foot prints on the seashore of technical education as the best engineering institute (ISTE 2002), led by the best head of the Institute, Dr. Trivedi (ISTE2002).
Biomedical engineering is a very wide area. It encompasses biology, bio physics, bio chemistry, bio mechanics, bio electronics, electrical, mechanical, production, civil/architecture, metallurgy and material technology, communication, control, robotics, genetic engineering, utility engineering and hospital management, too. The list of expert speakers covers biomedical engineers, academicians and large number of medical practitioners of various specialities and scientists of ISRO/IPR. The scope of this programme covers introduction to BME, electrodes, sensors, lasers, manufacturing, rehabilitation, DSP, image processing, orthopedics, physiotherapy, ECG, EEG, EMG, computerized ECG interpretation, artificial intelligence and neural networks, cardiac surgery, cryosurgery, fiber optics and endoscopy, ventilators and respiratory measurements, pacemakers, defibrillators, neurological equipments, DNA, genetic engineering, dialysis and dialysers, safety aspects, ultrasound applications, blood cell counters and gas analysers, telemedicine, modeling and simulation.

The lectures will be supplemented by visits to Rajasthan hospital, Civil hospital, Krishna Heart Institute, Sukhmani hospital, Sterling and SAL hospitals, Kidney institute, X-ray house and Ashish Pathological laboratory. Moreover, demonstration of some medical instruments and equipments from Chakradhar Enterprise, Pamtrons and D K Scientific and Claris life sciences are also arranged.

It is practically impossible to confine the ocean in a pot. We have made all efforts to bring few drops from all the seven seas in our pot. We may not be complete in our efforts. It is desirable too. Moon of 14th day is better than that of 15th day (full moon) because, it has positive growth rate. Your suggestions are welcome. Let it be the learning programme rather than a training programme. I am pleased to announce that this time we have applied to start an under graduate programme in BME.

I welcome and thank you all.

Prof. (Dr.) M. D. Desai, Co-ordinator, BME

About Prevoyance

At Nirma Institute, we aim at producing good engineers, with all round development as worthy citizens of India. All branches have student forums – local and international – keeping the campus oscillating with activities – technical, semitechnical, general and cultural. In electronics and communication, we are able to attract very very bright students. Apart from academic excellence, they also lead in student activities. IEEE is almost ruled by EC students, starting with Chintan Trivedi to Nandini Panikar. Electronics and communication student organisation ECO was almost in a silent sleep except, little snoring for a long time. New office bearers and motivation of faculty advisor
have made us hear a loud roaring echo from ECO (Electronics & Communication Student Organisation), in the name of Prevoyance. It has attracted about 500 participants, from all over India. Our goal is not the number of participants or colleges, indicating amplitude. Broad band width of the programme is indicted by the nature of activities, like paper presentation, project competition, poster presentation and model presentations, on Biomedical engineering and improving life in rural areas – a noble social cause too. It was a tough job, to filter and select 31UG & 10 PG papers out of 198; 46 posters for presentation out of 185; 46 projects out of 125 and 16 models out of 22. The broad casting range of the programme is enhanced by the expert lectures from Gujarat Amateur Radio on Ham Radio, from e-infochips on Embedded systems, from Hutch on mobile communication and from Secure meters Udaypur. Above all, the presence of Mr. Praful Shroff as the chief guest has created resonance of our endeavaour for excellence. We are highly obliged to him. Presence of our vice chancellor and director has provided fine tuning to this programme. With the network of good wishes of all our supporters and well wishers, we are able to relay this programme for all our receivers – dear participants.

I welcome and thank you all. I wish the participants, real impedance matching with the programme and maximum knowledge transfer during these two days.

Prof. Dr. MD Desai

Speech at B.Tech final year farewell

Meeting together is pleasant, departing is painful. In earlier days, girls leaving the parents and going to in-laws were weeping. Modern girls do not weep. Sometimes, they are better placed with in-laws. Same may be true, for you. Here, you undergo study/training, with a lot of stress and strains, discipline, and may be planning to fly in the open sky. But, whether you go to the industry or higher studies, you have to follow certain rules and regulations. Any how, you may or may not miss us but, the department will miss you. We will miss sincere but, silent students like Ekta and Dipali of IC, all rounders like Pranjali and Punit, good leaders like Gautam Pal, Very good artists like Vani Baxi & Co.. ISA will miss Punit, Kaushal and team. From electrical side, ISTE will miss sincere workers like Neha Bhargav and Devangee. EESA will remember Vidyut Adbhutam of Neha Bhargav, Ankur Desai, Shaiash and Kush. IEEE will be poorer without Nandini.

ECO will fill absence of Rajeshkanan and Kaushik Prajapati. We will remember, talents like Yash Shah for his break down avalanche, through barriers of IIM Lucknow.

Many of you have got very good jobs through campus placement. Congratulations to all, irrespective of the branch, and best wishes – Duniya Apki Muthi me ho or hum apke dil me ho. Thank you all.

Prof. (Dr.) M D Desai
Speech at Inaugural Function of National Technical Festival, Vidyut Adbhutam of electrical students at Institute of Technology, Nirma University on 21 March, 2006.

Mr. Sharad Kulkarni, Senior Deputy General Manager, L&T, Mumbai, Director, IT, NU, office bearers of EESA, heads of the departments, faculty friends and dear student delegates.

I have a special relationship with the chief guest, Mr. Sharad Kulkarni. His father was my professor at under graduate level and Sharad Kulkarni was my student, before thirty years. He has stepped up in his career, to a potentially high and prestigious position of senior deputy general managers of L&T. Naturally, secondary potential (position of a student) should be much higher than the primary potential (position of the teacher) in case of a step up transformer. It is my pleasure, to share this platform with him. We accidentally met in a flight to Bangalore, after a long time. I am highly thankful to him, for accepting our invitation to inaugurate this event, as the chief guest. It is my proud privilege and pleasure, to welcome him here. I take this opportunity to inform him that we have a very good tuning with L&T. Our director and heads of the departments have visited various units of L&T at Baroda and Hazira. L&T recognized our institute for the Build India project of L&T, offering projects to the post graduate students.

I am assigned the responsibility of triggering the SCR of your mind, for the conduction of the concept of this event, called Vidyut Adbhutam (Wonderful Electricity). Vidyut (Electricity) is really Adbhutam (wonderful). If handled properly, it cares for you and if mishandled, it scares you. Same is true for the student friends. If they are provided low impedance path of motivation and guidance, they create marvels. Our electrical student friends are before you, with this wonderful event. It will put you, on the kurukshetra (battle field) of Nirma University campus, for the battle of robotic competition and Armageddon of system design, using EDA tools and model making, where you have to use your Gandiv (Bow and arrows) of practical skill. Matlab and VHDL workshops will motivate you, to learn their applications.

Nowadays, you are known, not by what you know but, what you express. Paper Presentation coalescence will provide coalition of concepts, without collision of personalities and will lead you to the knowledge world of advance topics and current trends of technology, Expert lectures on MEMS, nanotechnology, plasma applications and privatization of power sector will trigger your minds, towards the technology of to-morrow and will charge the battery of your brains. Band width of your knowledge will be checked by the quiz competition.

With superconducting support of the faculty, the EESA (Electrical Engineering Student Association) team is here, with electrifying vidyut abdhutam and I wish that the event will result in fundamental waveform of success, without any harmonics of flaw. I wish that you will take maximum advantage of the event, by establishing the resonance with the event by eliminating reactance of hesitation, lack of confidence and shyness.

Once again, welcome and thank you all.

Professor Dr. M.D. Desai
Inauguration of Prevoyance, a national level technical symposium of ECO: About prevoyance.

Prof. Jitendranath Goswami, Director PRL, Dr. N V Vasani, Vice Chancellor, NU, Director, IT NU, ECO (Electronics and Communication Students Association) President and team, heads of the departments, faculty members, invitees and dear student friends.

It is my proud privilege, to lead you to the voyage of prevoyance of ECO. Engineering is applied science and electronics is applied physics. We have the rendezvous of physics and engineering here. We are very lucky to have Prof. Jitendranath Goswami, the director of physical research laboratory, Ahmedabad as the chief guest of the programme, here. He leads the scientists to moon under moon mission. I am sure that his presence, inspiration and motivation will provide a launching pad to the student friends, to be launched in the space of their future career and attain proper elevation, trajectory and altitude. They will land to their goal of good industrial job placement or admission for higher studies. Nirma institute of technology, the temple of learning, is the integration of vision of Vasani sir, directions of the director and fatigueless but fruitful efforts of the faculty. I welcome Vasani sir and other dignitaries.

Globalisation has opened the flood gates of opportunities, as well as challenges. Your marksheet or gradesheet is not the credit card, which you can use, every where for your lifetime. You have to go beyond classroom, curriculum and text books. You have to develop a wide knowledge base. Again, what you know is not important. Others should know what you know. It is proved by what you can express. This type of event, provides a unique opportunity in this direction.

Electronics and communication is at the peak demand for last five years. The best students join this branch. They should not prove themselves to be free electrons, moving in the aimless orbit, doing useless activities. They should be bonded to the mission statement of the institute. We aim at producing, not only good engineers of tomorrow but, worthy citizens of the great nation, by all round development.

Prevoyance, a national symposium is the effort of ECO, echoing aspirations of EC students in this direction. The registration of 600 +, is amazing. It encompasses almost all colleges of Gujarat and has crossed the boundaries of the state and penetrated in to many states across the country. Quantitative spread may bring impurities but, solid state physics (electronics) harnesses impurities by proper doping for the fruitful conduction. Out of 235 entries, it was a tough job to select 40 papers for the oral presentation and 40 for posters presentation; 55 out of 115 entries for project competition and 64 out of 200 for Roborace. Again, there will be, on the spot circuit design competition. Remote controlled robocar has to overcome the forces of earth, air, fire, water and gravity. There
are events related to quiz and observation skill. There are expert lectures, on computers, forensic science and ASIC design by the field experts.

Prevoyance team deserves congratulations for marketing the event to twenty five sponsors. Real salesman can sell airconditioner in Kashmir. EC students dealing with mv and mw are successful in convincing Torrent Power dealing with KV and MW to be the main sponsor for the event. We are highly obliged to Torrent Power for joining hands with us for this noble cause.

Success of any event is not indicated by the number of participants but, quality of the entries and events. We have galaxy of judges from IPR, BSNL, DAIICT, Rollwala Computer centre, ISRO and our senior faculty, to ensure quality control of the event. I welcome the delegates and wish that they will have something to be cherished for. The competitions will pose challenges to test your skills. It will be a good opportunity to work in a group in a healthy environment. Price of prizes is finite but, value of learning experience is infinite. Best wishes to the participants and the organizing team. Once again, I welcome one and all. Thank you all.

Prof. (Dr). M. D. Desai

--------

PREFACE of Proceeding of NITECH 04

We live in the information age. There is an explosion of information. A lot of literature is published in the hard and soft form. Electrical engineering is the most electrifying branch. Just like three original colours red, yellow and blue: civil, mechanical and electrical branches have existed for more than a century. But, during the past five decades, electrical engineering has expanded like anything. It has given birth to new branches like electronics and communications, power electronics, and instrumentation and control engineering and biomedical engineering, too. It is difficult for us to keep track of all the literature published in these areas. The sunny days ahead are the days of knowledge based society. Knowledge and intelligence will be the tools of survival, for the industries and institutes, in the most competitive age, to have the edge over your competitors.

At Nirma Institute of technology, we are well aware about the need of the day. We make all efforts to make all round development of the students, by way of curricular and extracurricular activities. At Nirma Institute of Technology, particularly in electrical engineering department, we have various student forums like ECO (Electronics & Communication Students Organisation), EESA (Electrical Engineering Students Association), ISA (Instrumentation Systems Automation) students chapter, IEEE (Institute of electrical and electronics engineering) students chapter and Rotaract, arranging various activities. This type of national paper presentation competitions, provide a unique opportunity, to the student friends, to know about large number of topics in a variety of
fields, in an emerging area on a single platform. Your knowledge, if stagnant, has no meaning. It becomes your strength, when you can express it. It is further fruitful, when you share with your friends. GUJCOST (Gujarat Council on Science & Technology) encouraged us, for arranging this type of event at the state level. We could successfully arrange it as NITECH last year, where sixty papers were presented in three parallel sessions, having twenty papers each in the branches of electrical, electronics and communication and instrumentation & control engineering. During the inauguration session of the same, Mr. K. Subramaniam, managing director of Masibus of Gandhinagar was so impressed by the event that he declared prizes worth Rs.15000/- from his company. This year we are thankful to GUJCOST for again selecting our institute and helping us in conducting this event. This time, we made it a national event.

We received overwhelming response from the participants. The flow of papers through post, courier and email overflowed our expectations. It was a tough job for the scrutiny committee, to select the necessary papers. The major constraint was the single day, event. We planned parallel sessions for the various branches. In each stream, on a single day, with number of sessions in series, it is difficult to arrange more than twenty papers. The paper presentation initially helps in developing reading, writing and editing skills, by way of report and later on communication and presentation skill, during the actual presentation. We considered nature of the topic, quality of the report, style of presentation, diagrams, illustrations, references and conclusion too, in the selection criterion. Apart from this, the event provides greatest opportunity for the participants from various colleges from different corners of the country. So, effort is made to cover participants from various colleges from various centers. Accordingly, we could select seventy one papers contributed by authors. Still, looking to the response, we observed that we had to disappoint many authors. So, we decided to go for poster presentation, also. It covered 53 more papers and more authors. As a result, finally we could cover 124 papers and authors. In addition to this, there is large number of audience participants, attending this event.

On electrical side, there are papers on topics like non-conventional energy sources and their management, FACTS, high voltage transmission, Digital and micro processor based protection systems, energy efficient motors, wireless power transmission, ultrasonic motor, slotless synchronous motors, energy conservation, safety of electrical installations, nuclear power and protection against blackouts.

On power electronics side, there are topics like pulse width modulation techniques, spintronics, harmonic analysis and power quality, latest power switching devices and powerline telecommunication.

On electronics and communication side, there are papers on Global wireless and mobile communication, mobile computing, optical packet switching, Microchip antenna analysis, patch and smart antenna, VOIP application, Networking and security issues,
holography, Raman Amplifier, simulation of universal test bed, voice over digital subscriber line, linear prediction, multiprocessing, hyper threading, embedded systems, image compression, digital signal processing, FPGA, DTH TV, tele immersion, clockless transceiver, optical computer, VLSI, Imax technology and so on.

Instrumentation and control engineering encompasses, topics on biomedical engineering like bionics, biometrics, biomems, biological effects of mobile phone, nuclear medicine, design of a heartbeat counter, computerized tomography, implantable artificial heart, haemodialysis, artificial retina chip set, microchip drug delivery system. On industrial instrumentation side, there are papers like industrial and control networks, fuzzy logic control for heat exchanger, fibre optic sensors applied to smart structures, mobile robotic platform, microprocessor based controllers, fuzzy logic and neural networking, programmable logic controllers, smart sensors and transmitters, computer aided mechatronics, Robotic chair control, nanotechnology, liquid level control, fibre optic sensors and emerging trends in electronics too.

There are participants, from various colleges of Gujarat, and all over India.

It speaks about materialization of our efforts during last five months. We are highly thankful to President Dr. Karsanbhai Patel and Vice President Shri Ambubhai Patel of Nirma University for providing us the canvass to paint the portrait of Nirma on the national level. We are indebted to the joint managing trustee, Vice Chancellor Dr. N.V. Vasani and Director NIT for continuous inspiration, motivation and support for this event. The glory of this event is just due to our team mates: zone wise co-ordinators, members of scrutiny committee, proceeding committee, hall committee, registration committee, catering committee, transport committee and many more student co-ordinators and volunteers and all the teaching and supporting staff of electrical engineering department, administration and estate sections. Some of our young dynamic faculty members have spared no efforts to make this event successful.

We are highly grateful to Director ISRO, Ahmedabad for accepting our invitation to inaugurate the event and giving new dimensions to the event.

We are highly grateful to Advisor GUJCOST for their core support and other sponsors.

I take this opportunity to thank the panel of judges for oral and poster sessions. The highest credit goes to authors and other participants, who put faith in us, gave an overwhelming response and made the event a grand success.

At the end thanks to one and all.
Dr. M.D. Desai
Co-ordinator, NITECH 04
---------
Speech at IEEE National Student Convention:
IEEE Institute of electrical and electronics engineers, is world’s largest professional society, having very large membership. It encompasses various branches of engineering like electrical, electronics, power electronics, communication, computers, biomedical engineering, etc. It publishes large number of transactions and journals. Gujarat section of IEEE, regularly arranges number of technical activities. Like that IEEE student chapters also, arrange number of technical activities. But, this time IEEE Gujarat Section and Rollwala Computer section have brought eminent professionals in the field of electrical engineering, electronics & communication, power electronics, control engineering and computers and the engineers of tomorrow in these branches of engineering, on same platform. For the student friends, it is a unique opportunity. Nowadays, liberalization and globalization have wiped out national boundaries and broadened horizons. Internet and websites have brought global opportunities to your door steps but, it is true for others also. It increases competition. The days of suppliers’ market have gone. The receiving end is very quality conscious. It applies to job market, also. Today, jobs can not be secured by flying colours of your degree marksheet or certificates. Nowadays, what you know is not important but, what you can express is important. Your good marksheet is to be wrapped by very good communication skill. Campus interviews by various companies include technical and general knowledge based, objective elimination test, group discussion and personal interviews. For this purpose, the students require study beyond curriculum and very good communication skills. Seminars and this type of paper presentations provide a very good practice for this purpose. In this competition, we received, overwhelming response from students all over India. There are about 150-175 delegates. It covers UG and PG colleges of Gujarat and many colleges outside Gujarat. Our student friends have covered variety of topics, which are very advance in nature. In these two days, we have called many eminent professionals for invited lectures. There is a physical limitation on the number of papers, which can be covered in a limited time. Most of the papers were really excellent but, due to time constraint, we had to limit the papers for oral presentation, to 16 and poster presentation to 40. So, our cut off limit was very high and as a result we have disappointed many student friends but, it does not mean that your papers are not up to the mark.

Thanks.......Prof.Dr.MD Desai

------------------------------

Inauguration : Technofora 06 : 31/3/06

Shri Ajay Mishra GM (Tech) IFFCO Kalol, Director, section head, HODs, faculty friends, invitees and dear student delegates.

Instrumentation Systems Automation is the largest professional body of instrumentation and control engineers all over the world. We have the most active ISA section, which has ensured uninterrupted supply of activities during last seven years.
Chemical Engineer is the father of a process plant. He designs and develops it. The plant requires proper care, otherwise it scares, all of us like Union Carbide Bhopal and Chernobyl Nuclear Plant. Instrumentation and Control is the mother of the process plant, taking necessary care and nourishing the same. We have the rendorous of Chemical Engineering and IC Engineering.

The wind of globalization has brought many challenges. You the students are the transducers, converting challenges to opportunities. You have to prove to be active transducers. You are sensitive sensors, sensing the expectations of the industry. What you know is not important – others should know, what you know, by your expression. Profibus and fieldbus network of your nervous system has to collect the knowledge beyond class room. Convert information to intelligence and cascade the concepts, adopt them for anticipatory control of your career. Tune controller of your mind, towards stable focused career, come out of transient oscillations of indecisiveness. Technofora is the humble effort in this direction. It has become trademark of IC students of this institute. It has attracted 300+ students from all over Gujarat and some from outside. The event encompasses paper presentation, PLC & Animation workshops, project competitions, management case studies, online LAN gaming, technical quiz and expert lectures by renowned scientists and technocrats. The romantic part of the event is the robot soldiers fighting to win the heart of Helen of troy.

Every year the IC students publish a technical magazine called MAG-IC a mirror reflecting their achievements and aspirations.

For this mega event, we are pleased to have a great chemical engineer – General Manager (Technical) of IFFCO, Kalol. We are highly thankful to Mr. Ajay Mishra for instantaneously accepting our invitation, to be the chief guest and inaugurate this event. His presence and presentation will inspire and motivate these engineers of tomorrow.

I welcome and thank you all.

Dr. M. D. Desai
HOD (E)
Faculty Counsellor ISA

Speech at Inauguration of Technofora 09:
Chief Guest Mr. Y.P. Buch, Senior Vice President, Reliance Jamnagar, Guest of Honour Mr. Jagdish Shukla, Vice President, ISA Asia Pacific, Director Institute of Technology, HOD (E), Section head IC, Student office bearers, HODs, faculty, student friends and invitees.
Students are the satellites, conquering the new heights in the space. The role of the faculty member is just like a launching pad remaining on ground. In my career of more than four decades, many of my students have attained very high positions of Vice President of Hewett Packard, general manager L&T, Torrent, Director EQDC and senior positions at National Instruments and Texas Instruments. There is a galaxy of such bright shining stars. Mr. Buch is one such bright star. Once launched, the satellite has no physical contact with the launching pad. I am very proud to be with him here, after thirty years.

ISA, International Society of Automation is the largest professional body of Instrumentation and Control Engineers all over the world. Our ISA students section was inaugurated by the ISA president from USA; Shri Jagdish Shukla is our friend, philosopher and guide, for our ISA activities. We got the charter in June’98. I am proud that I got the opportunity to work as the faculty advisor of this ISA section, continuously for more than ten years. ISA section arranges a lot of activities throughout the year and on foundation day. Technofora has become the trade mark of ISA section at this institute. In ten years, our students have crossed many milestones. Five of our student members have received ISA Education Foundation Scholarship awards with the highest value of $5000.

As India has expertise in space technology and can launch the satellites of other countries, at this institute we launch the career of our student friends from all over India. In satellite launching the pay load is very critical. The pay load of your attitude will decide, what altitude you can attain in your future career, overcoming the inertia of inactivity. ISA section here, makes its best efforts to optimize your payload and put you in the farthest orbit.

Welcome and best wishes for your bright future career.

Prof. (Dr.) M D Desai

-------------
The purpose of this book is to draw the attention of technical people towards negligence of communication. Our excellence is in vain, if our communication is poor. Communication can create problems and it can solve the problems, also. Grammar provides a strong base for communication. Words can win, worship and wound. In the oral communication: what, where, when, whom, how and how much to speak, are important aspects. Before speaking, listening is important. Oral communication is strongly supported by nonverbal communication. Well designed resume and curriculum vitae can open the window of interview. Before reaching interview table, good reading is necessary. Letters provide a literal link with others.

Technical persons have to prepare various technical descriptions. They have to prepare technical proposals and technical reports. To meet the objective, they are to be presented. Nuance of delivery, makes the presentation impressive.

The book is tailor made, to meet the curriculum of the subjects of communication skill and technical communication offered by many universities at first year level of degree engineering programmes. It can be useful to PG and other students and any teacher or professional or administrator interested in enhancing the communication skills.

The Author
Prof. (Dr.) M.D. Desai worked as Professor and Head of the department at L.E. College, Morbi; S.S.Engineering College, Bhavnagar; L.D.College of Engineering, Ahmedabad; Institute of Technology, Nirma University, Ahmedabad and as Assistant Executive Chairman at Kalol Institutes of Technology and Research Center, Kalol. He has PG and Ph.D. degrees from university of Roorkee. He has 46 years of active teaching and rich administrative experience of more than 30 years. He has successfully guided three PhD candidates and many PG dissertations. He has published around 50 research papers at national and international levels, chaired sessions in many national conferences. He has authored a book, control system components for PHI.

He is a recipient of Gold Medal from University of Roorkee, K.F. Antia Award of Institution of Engineers (India) and Excellence Award for Research in Science and Technology from Federation of Gujarat Industries. He has been member of academic bodies of various universities, member on selection boards and member of governing council of many organisations.