TECHNICAL COMMUNICATION
(KAS 301/401)

AKTU 2nd Year

Technical Communication

(KAS 301/401)

L: 2, T: 1, P: 0   Internal Marks: 30+20=50   External Marks: 100   Total Marks: 150   Credit: 3

AKTU 2ⁿᵈ Year

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Unit 2: Forms Of Technical Communication

2.1 Technical Report

The word 'Report' is derived from the Latin **'reportaire'** that means to bring back.

A technical report is an official document that presents fact, their analysis and decisions and recommendations derived on the basis of facts/data collected by an individual.

All professionals like engineers, scientists prepare their report that helps the executives in decision making.

Importance of Reports:
1. Reports enable decision making and problem solving in organization.
2. Reports help the authorities in planning things.
3. Reports are an important means of spreading information both within and outside the organization.
4. Reports serve as a measure of the growth, progress and success.
5. Reports serve as a valuable source of information.

Objectives of a Report:
1. To Present a record of project.
2. To Record an experiment.
3. To Record research findings.
4. To Present information to a large number of people.
5. To Recommend actions to solve a problem.
6. To Record and clarify the complex information for future reference.

Characteristics of a report:
1. **Precision:** A report has to include lot of information in limited space.
2. **Factual:** All information included in a report should be based on facts.
3. **Relevance:** All information should be related and relevant to the main idea of the report. It should be relevant from reader's point of view.
4. **Reader oriented:** When writing the report one must keep in mind what does the reader need to know (to arrive at a decision) rather than what the report writer may know about it.
5. **Objectivity of recommendations:** The objective of writing the report is to enhance productivity or business growth and should be free of writer's own personal views.

6. **Simple and clear:** The language used while writing the report should be simple.
7. **Brevity:** The report should be as brief as possible yet complete.
8. **Grammatical accuracy:** Grammatical errors are like faulty speech. They distract the reader's attention.
9. **Special format, illustrations, and documentation:** Reports usually follow a particular layout. All useful parts of the structure of a report should be included. Illustrations like charts, tables, diagrams, figures, photographs can also be used.
10. **Homogeneity :** The report should be written on one topic.

Steps in Writing a Report
1. Analyse the problem.
2. Determine the scope of the report.
3. Consider the audience or the reader.
4. Gather information.
5. Analyse the information.
6. Prepare the report according to the prescribed format.

Basic Structure of Report
1. Prefatory Part/Front Matter
a) Cover Page
b) Title Page & Writer's name
c) Acknowledgement (To show gratitude to contributors).
d) Table of contents
e) Abstract or summary

2. Main Text/Body
Actual report begins with the main body.
a) Introduction
b) Description of problem
c) Discussion/Analysis
d) Conclusion

3. Supplementary Part/End Matter
a) Appendix (Contains data, table, graphs, and charts etc all the supporting material which cannot be placed in main body).
b) List of References (Reference of original writer and book).
c) Glossary (List of technical terms).
d) Index (List of important alphabetized words along with the page numbers).

Categories of Reports:

1. **Informative Reports:** In this report introduction is followed by a presentation of information or facts and a conclusion. Recommendations do not arise in this type of report.
2. **Analytical Reports:** This type of report analyses the facts, draws conclusions and makes recommendations.
3. **Periodic and Special Reports:** Periodic reports are presented at regular and prescribed intervals in the usual course of business. They are also called *routine reports*. Special reports are related to a single occasion or situation. They deal with non-recurring problems.
4. **Oral and Written reports:** An oral report is simple and easy to present. It may communicate an impression or an observation. Written reports on the other hand are always preferred as it can be edited, reviewed, stored and retrieved.
5. **Long and Short Reports:** These reports are classified on the basis of length. Short reports are precise, concise and not very elaborative. Long reports are very elaborative and consist of abundant of information.
6. **Formal and Informal Reports:** A formal report is the result of proper survey and investigation and is presented the prescribed format. The language is also very formal. An informal report is usually transmitted from person to person, there is no set format and is targeted to only few persons e.g memo report.
7. **Individual and Group reports:** On the basis of the target audience a report can be classified as individual and group reports.

Abstract V/s Summary

Abstract	Summary
It states what the report is all about and what the significance of report is.	It sums up all the aspects of report using ordinary language.
It can be informative as well as descriptive.	It can be descriptive.
It is shorter in length.	It is longer in length.

Example: Write a report to the Managing Director regarding the need for improvement of the communication system in the company.

To: The Managing Director
From: M. L. Malhotra (Technical Expert)
Date: 21/07/2018

Subject : Improvement of the communication system in the company.
Observation : Personally checked all the departments of the company and found most of them are affected from disturbances in communication system.
Reasons : The networking wires are quite old. Some of them were found disconnected. Beside the machines are worn out and in such condition that cannot be repaired.

Recommendations :
1. The old machines are needed to be replaced with new ones which should be equipped with latest technology.
2. The wires should be changed.
3. An expert system administrator should be appointed to make the system more effective.

2.2 Thesis/Project Writing

- A **Project** report is a form of written communication prepared by a professionals at the completeness of his research work.
- It records all the data and its analysis and findings in objective style which contains all usual elements such as cover page , title page, table of contents, summary, introduction, conclusion and recommendations.
- A **Thesis** is a long research report. It may span over a period of 2 to 5 years.
- It provides detailed written account of the data after conducting some survey in particular field which includes data analysis, findings or conclusion derived by the researcher.
- It is divided into chapters.

Structure of Thesis Writing

1. Title page
2. Declaration/Certificate
3. Acknowledgement
4. Table of contents
5. Abstract/Summary
6. Introduction
7. Literature review/Background Information
8. Theory
9. Conclusions and Suggestions
10. References
11. Appendices

Importance/Significance of Thesis Writing

- Create an authentic work of research
- An extensive and most complex work of research
- Improves a researcher's subject knowledge
- Enhances rational and reasoning skills
- Open the door for future research
- Showcases your intellectual capacity

2.3 Synopsis

A synopsis is a short, systematic outline of the proposed thesis, made in preparation for the first meeting with the supervisor. It serves to ensure that the supervisor gets a clear picture of the proposed project and allows him or her to spot whether there are gaps or things that have not been taken into account.

Structure of Synopsis:

1. Title
2. Statement of the problem and hypothesis
3. Aims and objectives
4. Review of literature
5. Research methodology
6. References
7. Official requirements

2.4 Technical Research Paper Writing

- A research paper is a piece of writing based on original research carried out by the author and is the result of a small scale study.
- The main purpose of a research paper is to add to the existing knowledge, understanding and scope of a particular subject.

Characteristics or Style of Technical Research Paper Writing

1. Identify the purpose of writing technical research paper
2. Use of proper and relevant technical terms
3. Come straight to the point
4. Use of active and not passive voice
5. Use of modern language
6. Use illustrations
7. Accuracy of language
8. Use bias free language
9. Use of right tone
10. Discuss and describe data in a systematic way
11. Written in formalized structure

Method to write Technical Research Paper

1. Title
2. Authors, affiliations, and addresses
3. Abstract
4. Introduction
5. Materials and methods
6. Results
7. Discussion
8. Conclusions
9. Acknowledgement
10. References or bibliography

2.5 Seminar and Conference Paper Writing

BASIS FOR COMPARISON	CONFERENCE	SEMINAR
Meaning	A conference refers to a large formal gathering of several people or say, members, to talk about a specific topic or subject of common interest.	A seminar is an instructional event, wherein one or more experts communicate some information, through lecture or general discussion.
Number of people	50-1000	5-10
Objective	To get an opinion or solution for an issue.	To educate, discuss and guide.
Participation of audience	Limited participation	Active participation
Organized at	Organization or hotel meeting space.	Seminar hall of Institution, or an arranged space.
Duration	Few days	One hour or more
Type of work	Presentation and Exchange of views	Presentation and Discussion

Method To Writing a Seminar/Conference Paper

1. Title page
2. Table of contents
3. Abstract
4. Introduction
5. Body: Literature Review, Implementations, Results, Discussion, and Analysis
6. Conclusion
7. Citations and references

2.6 Expert Technical Lecture

- Eminent speakers from the industries and universities are invited to enlighten the students with their ideas and experiences.
- The objective is to students and faculty members the opportunity to gain knowledge and insight into the innovations through interactive sessions.
- Through these lectures, students get acquainted with recent developments, practical applications, research, problem-solving, industry needs and requirements, their expectation, scope for students and implementation of theoretical knowledge.

Essentials of an expert technical lecture

1. Theme clarity i.e. the speaker should be clear about the topic he is going to deliver.
2. Lecture should be presented in a clear and logical sequence.
3. The material should be comprehensible and meaningful
4. After introducing the theme, the speaker should present the data and analyze it.
5. Use of required technical terms.
6. Presentation of findings.

2.7 7 C's of effective business writing

1. Consideration: Visualize reader's circumstances, problems, emotions, and desires etc, and indicate that we understand them by using our words with care.
2. Courtesy: We should be courteous and polite during business writing.
For example, instead of writing, "we did not send the cheque", use "The cheque was not enclosed". Even if we are writing a complaint letter, our tone must be polite .
3. Clarity: We should be clear and specific in the letter. The words used should be unambiguous and clear.
4. Concreteness: A good business letter always provides concrete (actual, specific and convincing) information.
For example, Instead of saying, "I expect the order to reach me at the earliest", use "I expect the order to be delivered to me by the 21st of February 2019".
5. Correctness: Correctness of both expression and the information should be followed while writing a business letter. Facts, Grammatical structures and spellings should be correct.
6. Conciseness: Use only necessary details and short sentences.
7. Completeness: Provide complete information in the letter.

2.8 C.V./Resume writing

- A **C.V.** (curriculum vitae) is a detailed document outlining all of your life achievements, qualifications, associations, awards and skills.
- A **Resume** is a more concise document; an abbreviated version of your CV that focuses on specific skills and achievements, usually in relation and relevant to an employment opportunity.

Structure of a resume

1. **Heading**- It includes the candidates name, address, mobile number, E-mail address.
2. **Position Sought**- The candidate should clearly mention the post (he is applying for).
3. **Career Objective**- Here the candidate expresses his approach (way of thinking) towards the job.
4. **Education**- One's academic as well as professional qualification in detail
5. **Special Skills**- Special skills and aptitudes
6. **Works Experience**- the work experienced should be highlighted.
7. **Achievements & Awards**- It focuses on one's personal social & academic achievements.
8. **Activities and Interest-** it includes extra curricular activities and personal interest.
9. **Personal Information**- Hobbies, parent's detail, social status etc.
10. **Date and Signature**- signature of the applicant with date

Salient features of resume writing are :

1. It should be original.
2. It should reflect the candidate's personality, employment goals and career aspirations.
3. Resume should focus on required qualifications as per job.
4. The details of contacts should be mentioned.
5. Work experience should be mentioned.
6. Achievements in career should be highlighted.
7. Awards and honors must be given.
8. References id (if any) should be mentioned.
9. Covering letter or application for the job should always be attached with the resume.

2.9 Technical Proposal

- ✓ Proposal is derived from the word "propose" which means *to suggest, to offer a solution, or to forward a new idea.*
- ✓ Proposal is an act of proposing, or anything proposed.
- ✓ It is a form of business letter or a formal report written to draw the attention of the public to any issue.
- ✓ Proposal is nothing but a way to sell one's ideas.
- ✓ The main objective of writing a proposal is persuasion.
- ✓ It is the first step towards a new business.
- ✓ The aim of a proposal is to bring new benefits to the organization and it may be used within as well as outside the organization.

Types of Proposals:

1. **Solicited Proposals:** A proposal which is written in response to somebody's request.
2. **Unsolicited Proposals:** An unsolicited proposal is one sent to someone, even though they have not asked for it.
3. **Internal Proposal**: Address to reader within an organization.
4. **External Proposal:** Deal with the people outside the organization
5. **Formal Proposal:** This is the type of long proposal with detail discussion.
6. **Informal Proposal:** In this category comes short proposal including small projects and topics.

Structure of Proposal Writing:

1. **Title page :** It contains the title of the proposal, the name of the person or organization to whom the proposal is being submitted, the name of the proposal writer and the date.
2. **Table of contents :** It provides the readers an overall view of the proposal.
3. **List of figures :** It includes a list of tables, graphs, figures, charts used in the proposal.
4. **Abstract/Summary :** It highlights the major points of the proposal.
5. **Methodology :** It summarizes the proposed methods of data collection and the procedure for investigating the problem.
6. **Introduction :** It gives the background, states the purpose, and discusses the scope.
7. **Statement of problem :** It contains an objective description of the problem.
8. **Proposed plan and activities**
9. **Recommendations :** It discusses the ways to solve the problem.

10. **Conclusion :** It presents the final summary of the proposal.