

Technical Communication **AASL 0401/AMIASL 0401**

Unit: III

Technical Writing 2

B.Tech/M.Tech Int. IV Semester



Department of English



- Introduction
- Course Objective
- Course Outcome
- CO-PO and PSO Mapping
- Introduction
- Definition/types/Importance
- Video links
- Daily Quiz
- Weekly Assignment
- MCQs
- Old Questions
- Expected Questions
- Summary

- To help the students develop communication and critical thinking skills necessary for securing a job, and succeeding in the diverse and ever-changing workplace of the twenty first century
- To enable students to communicate effectively in English at the workplace

- **CO1** Comprehend the fundamental principles of technical communication with special reference to reading.
- **CO 2** Write various kinds of professional correspondence.
- **CO 3** Recognise and produce different kinds of technical documents.
- **CO 4** Apply effective speaking skills to communicate at the workplace.
- **CO 5** Demonstrate their understanding of various ethical concerns in written communication.

CO-PO and PSO Mapping

CO	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
CO1	2	2	2	2	-	1	1	1	2	3	2	2
CO2	1	1	1	1	-	-	-	1	2	3	1	2
CO3	2	1	-	1	-	1	1	0	2	3	2	2
CO4	1	-	-	2	-	-	-	-	3	3	1	3
CO5	3	1		1	-	1	-	3	3	3	1	3
Mean	1.8	1.25	1.5	1.4	0	1	1	1.25	2.4	3	1.4	2.4

Unit III

- Technical reports – types & formats
- Structure of a report
- Technical Proposal - structure and types
- Technical/ Scientific paper writing

Topic Mapping with Course Outcome

- Students will understand the correct structure and method of writing a technical report, proposal and scientific paper.

- Recap
- CV/ Resume making
- Prerequisite
- Understanding of preparation of official documents

Technical Communication AASL 0401

Unit: III

Technical Writing
Technical reports

B.Tech IV Semester



Department of English



Topic Mapping with Course Outcome

- Students will understand the correct structure and method of preparing the official documents
- Students will be able to understand the objective of official documents like official reports effectively

- Recap
- CV/ Resume making
- Prerequisite
- Understanding the importance of formal writing in a workplace

What is a report?

- ‘Repertoire’– To bring Back
- factual and systematic account
- Information, analysis and action
- Meant for a well-defined audience
- Impartial and objective
- May contain recommendations/ suggestions

Classification of Technical Reports

- **Function** – Informational / Analytical
- **Periodicity** – Routine/ Special
- **Audience** - Internal and External
- **Length** - Short and Long
- **Source** - Solicited and Unsolicited
- **Legality** - Statutory and Non-statutory

Importance of a Technical/Formal Report

- Basic management tool in decision making
- Only tangible record of a professional
- Aids in solving problems
- Helps in planning new ventures
- Means of disseminating information
- Storehouse of information
- Reveals gaps in thinking
- Legal Instruments

Objectives of a Technical/ Formal Report

- Record (Experiment / Project work)
- Inform (Annual report)
- Instruct (Inspection report)
- Analyse (Policies/procedures)
- Recommend
- Persuade
- Motivate

Characteristics of a Technical Report

- Precision
- Factual detail
- Relevance
- Reader orientation
- Simple and unambiguous language

- **Format of a Technical Report**

Chosen according to the nature, scope, function, audience and length of a report.

- **Preprinted form** – routine information
- **Memo** – Internal communication
- **Letter** – External Audience
- **Manuscript** – From a few pages to several hundred

Report Writing

<https://www.youtube.com/watch?v=EQ6rR9r8e3E>

1. Which of the following is not a part of a report:
a. summary b. introduction c. intermission d. title
2. which of the following is a part of a report:
a. explanation b. appreciation c. reservations d. recommendations
3. which of the following is not a characteristic of a formal report:
a. objectivity b. ambiguity c. clarity d. accuracy
4. A report which is submitted at regular interval of time is called:
a. A letter report b. A memo report c. Routine report d. Manuscript report

1. Which one is not a format of report?
a. Letter b. Memo c. Manuscript d. Demi-official
2. Which of the following is the longest format of a report?
a. Letter b. Memo c. Manuscript d. Pre-printed
3. A memo is:
a. A letter b. A Notice c. A report d. All of these
4. The word report has been derived from:
a. Repertoire b. Reportare c. Repertoire d. Report

- What are the different types of report?
- What is the purpose of writing a report?
- What is the difference between analytical and informational report?
- What is a technical report? What is its use for engineers?

- What is a report? How many types of reports are there? Describe all in detail.(2017-18)
- You are admission in-charge of Arihant group of Institutions. Write a report to be submitted to the chairman of the group regarding downfall in admission.(2017-18)
- How many types of reports are there? Describe all in detail.(2016-17)
- What is technical report? What is its use for engineers? (2015-16)

Expected Questions for University Exam

- What is a technical report? What is its use for engineers?
- What is a report? How many types of reports are there? Describe all in detail.
- Write a note on the characteristics of a good report.
- What is scientific accuracy of details essential to a report?

- Report is formal documentation of a problem / information / idea / incident
- Report is important for documenting, recording, referencing, analyzing a problem
- Various formats to write a report
 - Pre-printed, Letter, Memo, Manuscript

- Students understand the basic need and requirement of correct structure of official documents
- Students get an understanding of the basic need and requirement of writing formal reports

Technical Communication

Unit: III

Technical Writing 2

B.Tech IV Semester



Department of English



- Students will understand the correct structure and method of preparing the official documents.
- Students will be able to prepare official documents like official, academic or research reports effectively and independently

Recap

- Definition of Report
- Types
- Importance

Prerequisites

- Understanding of the basics of formal documentation and its importance in a workplace

Thesis

- Is a long research report
 - It describes:
 - what was known about it previously
 - The progress made by the current work
 - Interpretation of results
 - Where and how further progress in the field can be made

Project

- Is a completion report
 - It describes:
 - Different stages and aspects of the entire project
 - Gives an accounting of the project completed
 - systematic presentation and discussion of the data collected and analysed

Structure of a Thesis/Project Report

- Front Matter/ Prefatory Element
- Main Part / Body
- Back Matter

Cover Page / Title Page

- Report No. (top right)
- Frontispiece
- Title
- Submitted to...
- Submitted by..
- Date
- Name of the organization

Preface

- Only in published reports
- Links the reader and the writer
- Factors that led to the report
- Organization (contents in brief)
- Highlights (Important observations & findings)
- Significance
- Acknowledgements

Letter of Transmittal

- A covering letter in place of a preface
- Objectives / Terms of Reference
- Scope & Methodology
- Highlights
- Important results / suggestions
- Any other details which will help in understanding better

Front Matter Cont...

- Acknowledgements
- Table of Contents
- List of Illustrations
- Abstract / Executive Summary

Abstract v/s Summary

Abstract

- Essence
- 2-5%
- Specialist-to-specialist
- Qualitative
- No illustrations

Executive Summary

- Summary
- 5-10%
- For all readers
- Qualitative & Quantitative
- May include illustrations

Main Part / Body

- **Introduction** – Provides background information and links it to the aims and objectives, scope and limitations of the report
- **Methodology** – Methods of data collection and procedures of investigation, e.g. library, interviews, internet, surveys
- **Discussions** – Findings and analysis
- **Conclusions** – Significance and meanings
- **Recommendations** - Suggestions

Back Matter

- **Appendices** – supporting material
- **References / Bibliography** – Primary & Secondary sources (APA / MLA / Chicago Manual of Style)
- **Glossary** – Difficult words with explanation
- **Index** – A quick guide, arranged alphabetically

Structure of a Thesis:

Quite similar to the project report with few elements in addition:

- Title page
- Preface
- Letter of Transmittal
- Acknowledgements
- Table of Contents
- List of Illustrations
- Abstract/Executive summary
- Introduction
- Background
- Introduction/Objectives
- Methodology
- Literature Review
- Materials, Equipments
- Discussion
- Theories and Procedures
- Conclusions
- Recommendation
- Appendices
- References/Bibliography
- Glossary
- Index

Report Writing:

- <https://www.youtube.com/watch?v=EQ6rR9r8e3E>
- <https://www.youtube.com/watch?v=T76IKM6cL6U>

1. Which of the following is not a part of a report:
a. summary b. introduction c. intermission d. title
2. which of the following is a part of a report:
a. explanation b. appreciation c. reservations d. recommendations
3. which of the following is not a characteristic of a formal report:
a. Objectivity b. ambiguity c. clarity d. accuracy
4. Abstract is _____ in nature.
a. qualitative b. Quantitative c. Both a & b d. Neither of a & b
5. Appendix contains
a. Questionnaires b. related charts and figure
c. additional information d. all of these

1. A project report should be submitted after the completion of the project.
a. True b. False c. Partially true d. Partially false
2. Preface is written only is published documents
a. True b. False
3. Abstract is written for everyone in general
a. True b. False
4. Executive summary is _____ in nature.
a. qualitative b. Quantitative c. Both a &b
d. Neither of a & b

- What is the role of Preface in a report?
- What is written in Appendices?
- How is Abstract different from Introduction?

- What is a thesis/project writing?(2019-20)
- What is thesis writing? Describe its structure and importance of thesis writing.(2019-20)
- What is the difference between bibliography and reference?(2016-17)
- What aspects of a report are dealt with in 'front matter' and 'back matter'?(2016-17)
- Write a report on workers' discontent at company's Auxiliary unit. Invent necessary details by yourself. (2016-17)

- Which is the most voluminous part of a report?
- What is the importance of appendix in a research article?
- What is the structure of a technical report?
- What are the difference between preface and Table of Content?

- Letter of Transmittal – Covering letter
- Abstract and summary – Gist of report
- Introduction – Proposes the problem
- Discussion – Longest part and the analysis of problem
- Conclusion – Finding
- Recommendation – Suggestion
- Appendix – Additional information
- Bibliography – List of references
- Glossary - Dictionary
- Index – List of terms with page No.

- Students understand the basic need and requirement of correct structure of official documents
- Students understand the basic structure of writing technical, research reports and official documents

Technical Communication AASL 0401

Unit: III

Technical Writing
Technical Proposals

B.Tech IV Semester



Department of English



Topic Mapping with Course Outcome

- Students will understand the correct structure and method of preparing the official documents.
- Students will be able to prepare official documents like official technical and research proposals effectively and independently

- Recap
- Report writing
- Prerequisite
- Understanding the importance of formal writing in a workplace

What is it?

- A systematic, formal and persuasive set of recommendations / suggestions to solve a problem or tackle a situation.
- Written in order to initiate new projects, provide fresh ideas, solve problems, or reinforce and prompt innovative strategies.
- It explains and justifies what it proposes.

Importance of Proposals

- Valuable records of information
- An index of the company's growth / progress
- Bring financial gains
- Promote research activities
- Promote persuasive writing skills

Types of Proposals

- Sales / Business proposals - (External) sent to potential clients. Each is unique and creative in style.
- Research proposals - Academic, Solicited, Basic format remains the same.
- Source – Solicited and Unsolicited Proposal

Writing the proposal: steps

- Planning
 - Observation
 - Steps or methods of solution
 - implementation
- Collection of data
 - Methods: Personal observation, interviews, questionnaire
 - Sources: internal record, library, online sources

Contd...

- Writing the proposal
 - Rough draft
 - Observation
 - Proof reading
 - Final draft

Structure of Proposals

- Prefatory Part
- Main body
- Supplementary Part

Prefatory Parts

- Title page
- Letter of transmittal
- Draft contract
- Table of contents
- List of illustrations
- Executive summary

Body of the proposal

- **Introduction**
 - Objective/ purpose and Scope/ Limitation (problem, need, background)
- **Technical procedures**
 - Methods and sources (Action plan)
- **Managerial procedures**
 - Sequence of activities
 - Equipment, facilities, products
 - personnel qualifications
- **Cost Estimate**
- **Conclusion**

Supplementary parts

- Appendices
- References

How to write a good Proposal?

https://www.youtube.com/watch?v=yg_eUYksU3U

1. Managerial section involves
 - a. Statistics
 - b. accounts
 - c. activities
 - d. all of these
2. Appendix is a part of
 - a. Prefatory part
 - b. introduction
 - c. Main body
 - d. supplementary part
3. Technical section in proposal is a record of
 - a. Technical problem
 - b. technical solution
 - c. technical suggestion
 - d. all of these
4. Contract draft tell the rule and regulation of the proposed work. (True/False)

1. Which of the following are not the kinds of proposals:
 - a. solicited and unsolicited
 - b. decent and unacceptable
 - c. internal and external
 - d. sales and research
2. The word propose means:
 - a. to examine
 - b. to put forward
 - c. to propound
 - d. to carry back
3. Solicited proposals are always written
 - a. taking own initiatives
 - b. in response to an invitation, suggestion, advertisement
 - c. by a large no of people
 - d. all of these
4. Proposal _____
 - a. provides solution
 - b. just records problem
 - c. only proposes a problem
 - d. are written between a project

- Differentiate technical proposal from technical report in term of structure.
- What are different divisions of technical proposal? Draft a technical proposal for establishing computer center in your organization. Invent necessary details.

- Write a proposal for receiving govt. grant for setting up a manufacturing unit for surgical appliances.(2019-20)
- What is a proposal? How solicited proposal is different from unsolicited proposal?(2016-17)
- You are working in a manufacturing company. Write a proposal to replace an outdated machine that is no more useful for production. Be imaginative and invent details. Your proposal should include all the sections of a proposal as Introduction, technical section, Management section, cost section, conclusion(2016-17)

Expected Questions for University Exam

- Define solicited and unsolicited proposal.
- Submit a technical proposal to the director for the establishment of a manufacturing unit in your home town. Note that SISS will fund the project. Invent necessary details.

- Proposal from verb propose means to put forward
- Suggestions towards solution
- Various Types
- Writing the proposal
- Like report proposal is also divided in three sections
- Prefatory part: contract draft is a new part
- Technical section deals with technicalities of problem
- Managerial section deals with activities
- Financial section discusses budget estimate
- Supplementary section

- Students understand the basic need and requirement of correct structure of formal documents
- Students understand the importance and structure of writing technical and research proposals and formal writing of documents

Technical Writing AASL 0401

Unit: III

Technical Writing
Research Paper

B.Tech IV Semester



Department of English



- Students will be able to prepare official documents like official reports, research papers and reports effectively and independently
- Students will be able to understand the citation styles and will be able to understand the basic structure and method of research paper writing
- Students will be able to understand the style guided writing strategies

Recap

- Technical Proposal Writing

Prerequisites

- Understanding of technical document writing

Technical Research Papers:

- Add to the existing knowledge and understanding of a particular topic or subject
- Transfer new research and findings to other scientists and researchers
- Give systematic results of survey, research, and other activities
- Present an objective analysis, findings, recommendations and conclusions

Research Methods:

- Library research
- electronic access and search
- Investigation through primary sources(surveys, questionnaires)
- Scientific experiments

Structure:

- Title
- Author by line
- Abstract
- Introduction
- methodology
- results
- Discussion
- Conclusion
- Appendices
- references

Style for writing any technical or formal document must follow simple principles:

- Formal and Impersonal Language
- Accuracy
- Precision
- Brevity
- Clarity
- Use of simple and familiar words(appropriate to the audience)
- Avoid unnecessary repetition

7 C's of Effective business writing

- Effective communication/formal writing is about **delivering information unambiguously**, so that the receiver can decode it correctly.
- **Completeness** - reduces the need for follow-up
- **Conciseness** - helps the receiver to focus on important
- **Clarity** - reduce ambiguities
- **Correctness** - increases effectiveness and credibility
- **Concreteness** - enhances credibility
- **Consideration** - tailoring your message to your audience
- **Courtesy** - respecting the receiver's culture, values and beliefs

Style of Referencing

- Modern Language Association (MLA)
- American Psychological Association (APA)
- Chicago Manual of Style (CMS)
- Institute of Electrical and Electronics Engineering (IEEE)

Writing Bibliography

- Details
 - Name of author (n.a. – No author)
 - Book's Title
 - Publishing Place (n.p. – No publication)
 - Publishing House
 - Date (n.d. – No date)
 - Medium

Example

- Author Raman, Meenakshi and Sharma, Sangeeta
- Title Professional Communication
- Publishing place New Delhi
- Publishing house Oxford University Press
- Publishing Year 2009
- Page No. P. 54
- Medium Print/Web

Raman, Meenakshi and Sharma, Sangeeta. *Professional Communication*. New Delhi: Oxford University Press, 2009. Print

Raman, M. & Sharma, S. (2009). *Professional communication*. New Delhi: Oxford University Press.

Writing Strategy

- Analyze problem/ purpose (Terms of Reference)
- Scope
- Audience analysis
- Investigation/ Research – Primary & Secondary sources
- Organize
- Outline
- First Draft
- Revise, review, edit
- Final Draft

Seminar and Conference paper writing

- Seminar or a Conference paper is the text of a paper that the author presents in a seminar, conference or a workshop.
- Writing of these papers follow all the guidelines of writing a technical research paper.

Structure of a research paper

- <https://www.youtube.com/watch?v=tSkb7KZ5yw0>
- <https://www.youtube.com/watch?v=NAxuEANx7ds>

1. Words peculiar to a specific field are called:
a. Abstract words b. Key words c. Jargons d. None of these
2. Which one is not a part of the 7Cs?
a. Clarity b. Courtesy c. Consideration d. Cliché
3. Which of the following is a part of the 7Cs?
a. Cliché b. Conciseness c. Cleverness d. Contempt
4. Which one of the following is in wrong order
a. Analyze problem, scope, Audience analysis, Organize, outline, Final draft
b. Analyze problem, Audience analysis, Organize, Revise/ review/ edit, Final draft
c. Analyze problem, Investigation/ Research, Organize, outline, Final draft
d. Analyze problem, outline, Revise/ review/edit, Organize, Final draft

1. What is the approach of technical writing?
a. Subjectivity b. Objectivity c. Mostly oral d. None of these
 2. Which of the following is not a characteristic of technical writing?
a. Formality b. Correctness c. Informality d. Set Patterns
 3. Synopsis:
a. Is a research proposal b. Is a technical proposal
c. Is a brief layout of research d. All of these
 4. MLA means
a. Modern Language of Americab. Modern Linguistic association
c. Modern language associationd. Modern Listing Association
 5. Bibliography is written_____
- a. in sequential order b. in alphabetic order c. both a & b
d. neither of a & b

- How can one achieve accuracy and brevity in technical writing?
- What is the importance of writing a synopsis?
Discuss in detail the structure of a Synopsis
- Prepare a bibliography page of the reference books mentioned in your syllabus.

- Effective writing is essential for business success. Justify the statement.(2019-20)
- What is technical style? How does choice of words determine the style of technical writing?(2018-19)
- Discuss the main features of technical communication.(2017-18)
- With a specific example, illustrate how clarity can be introduced in technical writing?(2016-17)

Expected Questions for University Exam

- What is clarity and conciseness in technical writing?
- Discuss the 7C's of effective business writing?
- Discuss the structure of a technical research paper.
- What are the steps in writing a research paper? Explain each.
- What are the differences between a Preface and a Table of Content?

- Technical research papers are written to transfer knowledge in a systematic manner.
- These research papers are written with great care and can be presented in a Conference, Seminar or a workshop.
- A proper guided writing strategy should be applied in the preparation of these documents, as they add to the credentials of the writer or author of these documents.
- Principle of 7C's should be utilized for all kinds of communication to make them effective and impressive.

Reference Books

- Raman, Meenakshi, and Sangeeta Sharma. *Technical communication: Principles and practice*. Oxford University Press, 2015.
- Mitra, Barun K. *Personality development and soft skills*. Oxford University Press, 2011.
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Thank You