

Unit III

Forms of Technical Communication

1.What is a report?

Ans. The word 'report' is derived from latin 'reportare'. A report is a usually a piece of factual writing, based on evidence containing organized information on a particular topic. It is a basic management tool used in decision making.

2. What is thesis or dissertation writing?

Ans. Like a project report, a thesis and a dissertation are a form of written communication. They provide a detailed account of the data procured after conducting some survey as research in a particular field. They also include an account of data analysis and the findings, inferences or conclusions, derived by the researcher.

3. What is a conference paper and what are its guidelines ?

Ans. The conference paper is a written form of technical presentation in a seminar conference or workshop. Like other technical papers, conference papers are also written on a theme, summarising the important parts of the study. It includes an important section i.e., conclusion in which in brief all the facts and findings are included in appropriate form.

4. What is the difference between Dissertation and thesis?

Dissertation	Thesis
<ul style="list-style-type: none">• Short report i.e. from thirty to fifty pages	<ul style="list-style-type: none">• Long research project i.e from 200 to 250 pages
<ul style="list-style-type: none">• A work on a limited problem	<ul style="list-style-type: none">• A work on a problem of wide impact
<ul style="list-style-type: none">• May be evaluated by the guide-the internal examiner	<ul style="list-style-type: none">• Evaluated by the internal as well as external examiner

5. What is a keynote speech? How can we create and deliver an effective keynote speech?

Ans. A keynote speech is a kind of speech that has a main underlying theme.The keynote speech is generally used in gathering such as a political and industrial convention. On the other hand, the keynote speech also has a purpose to motivate and inspire the audience just like a persuasive speech. Since the keynote speech is all about giving a motivation speech, what better way to do that than to use stories, true or fictional to inspire the audience and gives a good example of the

topics of the speech. Adding funny events or moments from your experience or from other experience also gives value to the speech and is the best way to engage the audience. Repeating a simple usage in your keynote speech in pdf shows that you are making your core idea more memorable.

6. What are the 7Cs of effective communication?

Ans. The 7Cs of effective communication are:

- Completeness
- Conciseness
- Clarity
- Correctness
- Concreteness
- Consideration
- Courtesy

7C's of Technical Communication

Completeness: It should convey all necessary information required by the audience. It should not leave any questions in the mind of the receiver.

Conciseness: “**Brevity is the soul of wit**”. Conciseness means communicating what one wants to convey in least possible words without forgoing the other C's of communication. The sender should avoid unnecessary details and inappropriate expressions and should use simple language.

Consideration: Consideration implies “stepping into the shoes of others”. It means “You” attitude. The sender should know the audience's view points, background, mind-set, education level, etc.

Clarity: Clarity implies emphasizing a specific message or goal at a time, rather than trying to achieve too much at once. It makes understanding easier. Communicator should use familiar word and avoid jargons to convey information correctly.

Concreteness: Concreteness is another important principle of effective communication. Concrete communication implies being particular and clear rather than fuzzy and general. It means use of correct information, appropriate emphasis and subordination.

Courtesy: The sender of the message should be sincere, polite, judicious, reflective and enthusiastic. Courtesy builds goodwill for the sender and their organization.

Correctness: The message which has to be communicated should be correct in all respects such as grammar, formats, contents, etc. The incorrect messages fail to achieve their purposes. Therefore, in order to get desired results, the message, keeping the correctness in mind, has to be properly framed.

Report

Report is a formal document written for a specific audience to meet a specific need. It may contain facts of a situation, project and process; an analysis and interpretation of data, events and records; conclusions drawn from objective data or suggestion and recommendations. Reports may vary from a one page informal trip report to a 250 pages formal annual report of an organization. It may be presented verbally, electronically or in a written form.

Significance

Report serves several purposes:

- Presenting data
- Recording events and happenings
- Describing problems and suggesting solutions
- Discussing and analyzing data
- Analyzing a situation or condition
- Giving feedback, suggestion, or recommendation

Characteristics of Report

Precision: Precision gives unity and coherence to the report and makes it a valuable document. Effective report must clearly reflect its purpose.

Factual details: The report should be very detailed and factual. It should meet audience's expectation.

Relevance: The facts presented in a report should not only be accurate but also relevant. Irrelevant facts make a report confusing.

Reader-oriented: A good report should always be reader-oriented, so it's necessary to keep in mind the person(s) who is (are) going to read it.

Simple and unambiguous language: A good report should be written in simple and unambiguous language. It should be clear, brief and grammatically correct.

Special format: The technical report uses a proper format including cover, title page, table of contents, list of illustrations, letter of transmittal, appendices etc. These have to be prepared according to a set standard.

Homogeneity: A report should deal with one main topic. All the sections of the report should focus on that topic.

Documentation: Technical reports acquire more value when adequately documented by acknowledging sources of information in an appropriate style.

Types of Report

CRITERIA	TYPES	DESCRIPTION	EXAMPLES
FUNCTION	Informational	Objective presentation of data without analysis	conference reports, seminar report, trip report
	Analytical	Objective presentation of data with analysis and interpretation	project reports, market research reports
FREQUENCY	Routine Report	Presentation of routine information	Daily production report, monthly sales report, annual reports
	Special	Presentation of specific information related to single condition or situation	Thesis, dissertation, enquiry report, proposals
COMMUNICATIVE FORM	Oral	Face to face presentation of data	accident report, sales reports, joining report
	Written	Presentation of information in written form	project report, progress report, research report
NATURE, SCOPE AND LENGTH	Formal	Long report with elaborate description and discussion	Annual report, project report, technical report
	Informal	Short report	Lab report, daily report, trip report

Table 3.2 Types of Report

Formats of Reports: There are four formats of reports; they are Pre-printed format, letter format, memo format, and manuscript format. The choice of a format can be made according to the nature, length, scope, and function of the report, and type of audience.

1) Pre-printed format: These forms are generally used to collect routine information like daily production report or monthly sales report. Using a printed form is quite simple because the person has to just fill in required category of tick against the listed items. The advantages are: they are systematic and easy to read, more objective and factual, and save time.

2) Letter format: This format may be used for short reports that have to be communicated to someone outside the organization. A letter format contains all the elements of a letter along with some addition sections such as illustration, references, and so on. Heading may be used in letter report. This format is used for informational analytical, routine, special reports.

3) Memo format: This format may be used for short reports that have to be communicated to someone within the organization. A memo format contains all the elements of a standard memo. Like a report in letter format, memo format also contains some addition sections such as illustration, references, and so on. Heading may be used for easy reading and reference.

4) Manuscript format: This format is used for long and formal reports. These reports are divided in sections and sub-sections, each with a clear heading. While preparing a report in this format the writer needs to be careful about its structure and elements. A structured report will help in thinking clearly and deciding where to put each fact or idea. It also makes reading easy and helps the readers find the information they need.

3.6 Structure of a Formal Report

A formal report may include the following parts:

Prefatory Part

1. Title page
2. Preface
3. Letter of transmittal
4. Acknowledgement
5. Table of content
6. List of illustrations
7. Abstract or executive summary

Main Body

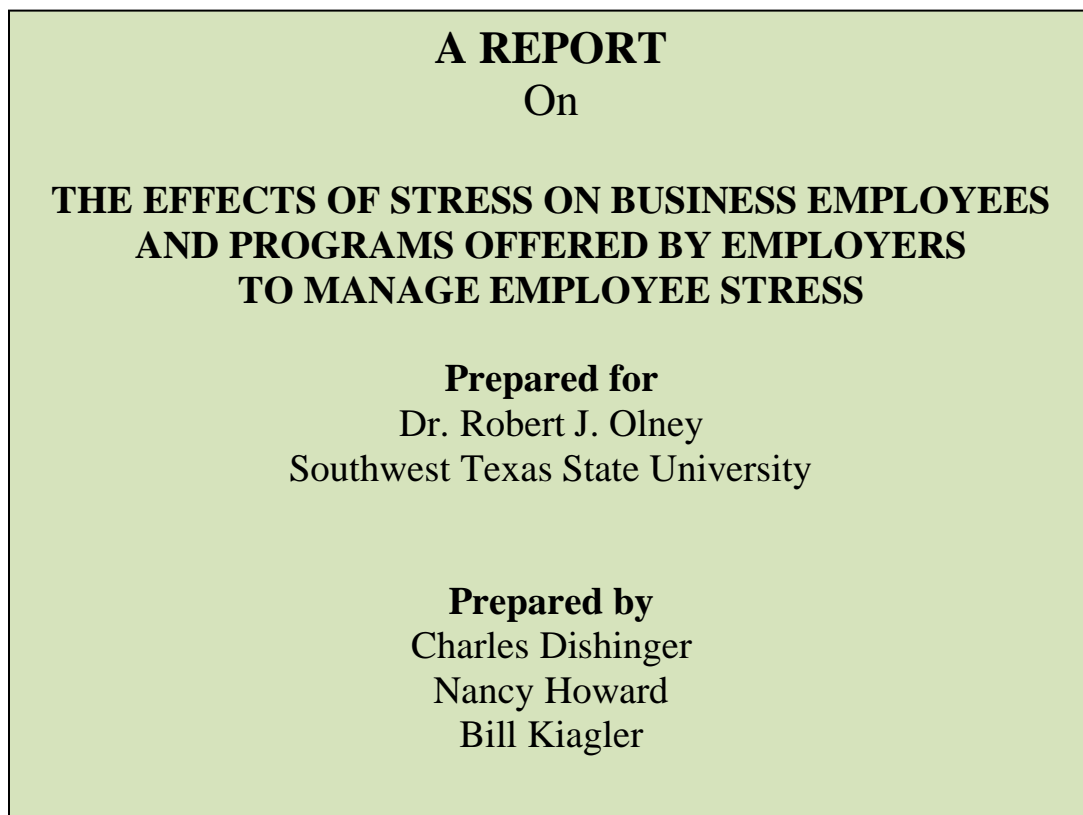
8. Introduction
9. Methodology
10. Discussion/ findings/ analysis
11. Conclusion
12. Recommendations

Supplementary Part / Back Material

13. Appendices
14. References
15. Bibliography
16. Glossary
17. Index

Each of these parts of a formal report will now be discussed in detail:

Title page: A formal report usually begins with a title page. It contains the title of the report, the name of the person or organization to whom the report is being submitted, the author/s of the report and the date. A sample is given below



Preface: The preface is an optional element in a formal report. It is written by the report writer in personal style. It introduces the report by mentioning the background of the report, the introduction of the subject of the report to the readers, reasons for writing the report, its salient features, and scope. It may also contain acknowledgements if the report does not include an acknowledgement.

Letter of transmittal: The transmittal letter is a brief covering letter from the writer of the report introducing the purposes of the report and explaining the causes for writing the report. It may contain the objectives, scope, and other highlights of the report.

Acknowledgements: The acknowledgements section contains the name of persons who contributed to the production of report and made the report possible. It is just a “thank you note”.

Table of Contents: “The table of contents” provides the reader an overall view of the report and shows its organization. This section lists the main headings and also the subheadings sometimes in the report with page numbers. Figure contains a sample table of contents

iii		iv	
TABLE OF CONTENTS			
LIST OF FIGURES	vi	CHAPTER 3. MATERIALS AND METHODS	27
LIST OF TABLES	vii	Population and Sample	27
ABSTRACT	ix	Survey Development and Design	29
CHAPTER 1. INTRODUCTION	1	Data Collection and Analysis	31
Rationale	1	CHAPTER 4. RESULTS AND DISCUSSION	33
Research Questions	5	Description of the Sample	33
Definitions of Terms	6	Description of Responses	34
Organization of this Study	8	Analysis of Responses	36
CHAPTER 2. LITERATURE REVIEW	9	Testing of Hypotheses	38
Concept Models	9	Discussion	40
Recruitment and selection	10	CHAPTER 5. CONCLUSIONS	45
Orientation	13	Summary	45
Characteristics	15	Recommendations	48
Career Management	16	Future Research	51
Assimilation	19	APPENDIX A. SURVEY INSTRUMENT	53
International issues	20	APPENDIX B. ADDITIONAL TABLES	54
Acquired skills and knowledge	23	REFERENCES CITED	60
Maximizing benefits	25		

Figure 3.4 Table of Contents of Report

List of illustrations: The list of illustrations gives systematic information about tables, graphs, figures and charts used in the report. Fig contains a Sample list of illustrations:

List of illustrations

Referencing Figures

Referencing figures from web source..... 2

Referencing figures from print sources..... 4

Referencing Tables

Referencing Tables..... 7

Referencing tables from web sources 8

Referencing tables from print sources 8

Referencing tables you have created from other sources11

Figure 3.5 List of Illustrations

Abstract or Executive Summary: An abstract or an executive summary summarizes the essential information in the report focusing in key facts, findings, observations, results, conclusions and recommendations.

Introduction: This section introduces the readers to the report and prepares them for the discussion that follows by providing background information, defining its aims and objectives, and discussing the scope and the limitation of the report. It helps the readers in understanding and analyzing the report as it includes facts that the reader must know in order to understand the discussion and analysis that follow.

Methodology: While writing the report information may have to be gathered from library and archival sources or through internet surfing, interviews, surveys, and formal and informal discussion. The section on methodology summarizes the methods of data collection, the procedures for investigating the situation/problem, and the criteria of survey.

Discussion/description/analysis: This is the main part of the report as it presents the data that has been collected in an organized form. It focuses on facts and findings of the report and may include an objective description and discussion of the problem, an analysis of the situation and finding of the investigation. It is usually divided into sections and subsections with well structures and clear headings and subheadings.

Conclusion: This section conveys the significance and meaning of the report to readers by presenting a summary of discussion and findings, root and conclusions, implications of conclusion presented, and inferences.

Recommendations: This section contains recommendations that are based on results and conclusions. As they propose a course of action to improve a situation or a condition, they may present several ways to solve a problem or improve a situation. It may also indicate the need and nature for further work in the concerned area.

Appendices: An appendix contains supporting material or data, which is kept separate from the main body of the report to avoid interrupting the line of development of the report.

Reference and Bibliography: This section may contain references to books, journals, reports, dissertations, or/and published documents, and other sources used in the report. It may also consist of a list of materials for further reference.

Glossary: It is a list of technical term used in the report and their explanation. The list is arranged in an alphabetic manner.

- **Index:** The index is intended to serve as a quick guide to locate the material in the report. The index is alphabetic arrangement of topic, sub-topics, technical terms or any other important aspect of the report with their location in the report. This element is generally used in bulky reports to help the reader to locate the topics. Analyze problem/ purpose (Terms of Reference)

Bibliography: The available methods of referencing are:

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

MLA Style of Referencing:

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

Example of MLA Style

- 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 (MLA)

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

3.7 Style and Writing of a Report

- Purpose/Scope: determine the purpose and scope of the report in order to analyze the relevance of the report.
- Audience analysis: audience analysis is used in order to understand the requirement of the audience.
- Investigation/ Research – Primary & Secondary sources: investigate the situation using relevant research methods and collect relevant data.
- Organize: organize the relevant data in a proper order so as to understand the appropriateness of the report
- Outline: prepare the outline of the report to meet the purpose and scope of the report
- First Draft: prepare the first draft, compile all data in a proper systematic order. Preparation of the rough draft should be done through computer.
- Revise, review, and edit: revise review and edit the prepared document to weed out all informational, grammatical and syntactical errors.
- Final Draft: now prepare the final draft with final formatting of the document.

URL (Effective Report Writing):

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

URL (Project Report Writing):

<http://users.iems.northwestern.edu/~hazen/Writing%20Project%20Reports%202004a.pdf>

Short Report Example / Short Report Sample



A short report is usually written to inform the authority concerned or specific readers about a specific matter so that they can make appropriate decision about the matter. It consists of facts and sometimes analysis of facts. The information provided in a short report is arranged somewhat in a memo format. While writing a short report, one must start it with an introduction heading. Also the purpose of writing the report including explanation should be mentioned in it. The length of a short report is usually from half page to two pages. However, the followings are the parts of a short report.

- (1) Introduction
- (2) Discussion
- (3) Summery
- (4) Conclusions
- (5) Recommendations
- (6) Appendix

Technical Proposal

The term proposal has been derived from the verb “propose” that means to “to offer or put forward for consideration”, as a suggestion, plan, or purpose. A proposal is the form of technical writing, which presents a set of recommendations or suggestions to solve a problem or a situation. It is written for a specific audience to meet a specific need. It is usually written in order to initiate new project, provide fresh idea, solve problems or reinforce or prompt innovative strategies. It explains and justifies what it proposes. Submitting a proposal is usually the first step in going ahead with a new project. A proposal usually responds to the

needs of a situation or a problem. The importance of a proposal lies in the fact that a number of scientific and technical projects usually begin with a proposal.

USES OF PROPOSALS:

- Initiate new projects
- Provide fresh ideas
- Solve problems
- Reinforce or prompt innovative strategies
- To win contract

TYPES OF PROPOSALS: There are three types of proposals

1. **Business proposal:** Proposal dealing with any aspect of business, trade and commerce.
2. **Research proposal:** Proposal concerned with a project requiring scientific enquiry of systematic investigation.
3. **Technical proposal:** Proposals related technical knowledge and skills.

All these can be further divided into following categories:

CRITERIA	TYPES	DESCRIPTION
Content and Format	Informal	Short proposals involving small projects
	Formal	Long proposals with elaborate description and discussion
Nature of audience	Internal	Addressed to reader within an organization
	External	Communicated to people outside the organization
Source of origin	Solicited	Written in response to a request for proposal
	Unsolicited	Written by an individual by his own without any request/invitation

DIVISIONS OF A FORMAL PROPOSAL:

The structure of a formal proposal is almost similar to that of a formal report.

Prefatory part:

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

Main body:

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

Supplementary Part:

- Appendices
- References

Title page: The title of a proposal is similar to that of a report. A formal proposal usually begins with a title page. It contains the title of the proposal, the name of the person or organization to whom the document is being submitted, the author/s of the proposal and the date.

Letter of Transmittal: This is a cover letter of the proposal. This presents a brief introduction of the proposal. The topic and purpose are clearly mentioned in the introductory section, the middle section contains the proposal highlights, and the concluding section motivates the recipient towards responding positively to the proposal.

Draft contract: This section presents a rough draft the contract prepared by the proposer.

Table of contents: A brief proposal does not require a Table of Content, but if the proposal is long then the table is essential.

List of illustration: This list enables the reader to easily locate visual aids, if any, quickly.

Abstract: it is a condensed version of the proposal as it summaries and highlights its major points.

Introduction: Introduces the readers to the proposal. It gives the background, states the purpose and discusses the scope and limitation. It may also persuade readers by highlighting the major advantages and justifying the proposed course of action.

Technical section: This section presents technical requirements to the reader. This section incorporates various aspects like: the methodology, plan of action and the various solutions available for the problem and the reason for selecting such a solution.

Managerial section: This portion of the proposal focuses on three major things:

1. **Sequence of activities:** This section not only guides the reader about managing the job but also facilitates a systematic approach to the execution of the plan.
2. **Equipment, facilities, and product:** This section explains about the existing equipment, facilities, etc., and also the additional facilities that may be needed to carry out the project.
3. **Human resource:** This portion explains the details of the human resources requirements to complete the project. The proposer provides a detailed list of number of person and also the type of expertise they possess. The company profile can also be included in this section.

Budget/ cost estimate/ financial section: This section is mandatory for all proposals. This provides a breakdown of all estimated cost for the project. It should include cost estimates of the items such as materials and supplies, salaries, travel, duplicating, consumable items, etc.

Conclusion: This section presents the final summary of the proposal and focuses on the main features and the key benefits and advantages. It influences readers with a final appeal.

Appendices: Secondary materials are put as appendices in a proposal. This maintains continuity of logical progression and avoids distractions.

Reference: Reference gives the list of sources that have been used or quoted in the proposal.

Project report:

When one completes a particular research or development project, one needs to prepare a completion report. This completion report is called a project report. The main function of a project report is to give the individual, organization, institution or a company an accounting of the project completed. It is a systematic presentation and discussion of the data collected and analyzed as a part of project. It may be external or internal.

Thesis/ Dissertation:

A thesis or Dissertation is a research report that presents research data- either original research work or information gained largely from printed information sources or from other sources. It is a written composition describing, discussing or analyzing a systematic investigation towards increasing the sum of the knowledge in a specific area or field.

Although a thesis or Dissertation is similar to any other formal report in structure and format, it does have a few elements that may be in addition to rest of the element of a formal report. Apart from usual elements such as: **Title page, Table of content, illustrations, abstract, introduction, methods of findings, result, discussion, conclusion and recommendation.** A thesis may include the following additional elements: **Background, Objectives, Literature review, materials and equipment, theory and procedure.**

Background: This may include a discussion of the background of the research or the reasons for carrying out the research work. Every original research must convince the reader of its need and utility. One may establish question, theories, or principles through it.

Objective: The writer may include a separate section on the objectives of the research work.

Literature Review: Literature review is essential to provide a correct focus to the research. This section presents a summary of the literature relevant to the research. This may include earlier projects, research work, books, journals, etc.

Material and equipment: The writer needs to describe in detail the material and equipment that is used in the research work.

Theory and Procedure: The content and the organization of a thesis or dissertation follow a basic logic: it not only presents the data and conclusion, but also presents information on how the data was collected and analyzed. Thus, a systematic description of the method and procedure of collecting data is very important in thesis or dissertation.

TECHNICAL/ SCIENTIFIC PAPER:

Technical paper is an important form of technical communication. It is a written composition describing, discussing and analyzing a systematic investigation towards increasing the sum of knowledge in a specific field.

Features:

1. Add to the existing knowledge and understanding of a particular subject
2. Transfer new research and findings to other scientist and researchers
3. Gives a systematic account of the results of some survey, research, field work and other activities
4. Present an objective analysis of facts, findings, recommendations and conclusions

Characteristics: In its style, structure, and approach, a technical paper closely resembles a formal report. Hence the characteristics are almost the same. Following are the chief characteristics of a technical paper:

1. It is most common form of expository discourse and may be written on any topic or subject- scientific, technical, social, cultural etc.
2. It is highly stylized and contains a high concentration of certain writing techniques.
3. It is objective in nature and presents information in accurate, concise, direct and unambiguous.
4. Technical papers are characterized by the use of illustrations and jargons.
5. A technical paper is documented prose work. All analysis has to be supported by adequate evidences.

TYPES OF TECHNICAL ARTICLES:

CRITERIA	TYPES	DESCRIPTION
Mode of presentation	Journal Article	Communication of technical information in a structured form as per the established pattern for

Content and Functions		articles acceptable for publication in a particular journal
	Conference Paper	The written form of a technical communication that the author has presented in a seminar, conference or a workshop
	Review Articles	Evaluation and analysis of published work on a particular topic
	Research Articles	An objective description and discussion based on a research project or on a small scale study

PARTS OF TECHNICAL PAPERS: The following are the parts of a technical article:

1. Title,
2. Author By-line,
3. Abstract,
4. Introduction,
5. Methodology,
6. Result/ Finding,
7. Discussion,
8. Conclusion,
9. Appendices,
10. References.

Title: All technical articles begin with a title. The title of a technical article is usually a long phrase that contains key words and indicates the content of the article. It gives a clear idea of the topic that is discussed in the articles. It is, important that the title of a technical article is informative, specific and comprehensive.

Review Article: A review article is an evaluation and analysis of a published work on a particular topic. The main purpose of a review article is to evaluate a published work in order to determine its academic value and research potentials. While reviewing a particular piece of a published research work, the review writer tries to answer the question “how does the work under discussion increase the sum of knowledge in a specific field?” The review may also comment on the necessity for future research in the concerned area and propose certain directions.

Journal Article: A journal article is the communication of technical information in a structured form as per the established pattern for articles acceptable for publication in a particular journal.

The form of a journal article is as important as its content because most journals follow a style guide that the technical writer has to use to structure the article. These style guides provide detailed writing instructions that may include guideline about the preparation of the text, organization, length, referencing system and use of symbols and abbreviations and so on.

Conference paper: A conference paper is the text of a paper that the author has presented in a seminar, conference or workshop. As it is the written form of a tech. presentation, it follows the pattern in which it has been presented before the audience. However, the academic value of a conference paper is usually less than that of a journal paper. The main reason is that the reviewing process of journal article is usually more formal and systematic than that of a seminar paper.

