

Guidelines for the preparation of project phase -1 reports for MCA programme

- a. **Project reports should be typed on bond paper – 80 GSM with soft binding with 1.5 on a A4 size bond paper (210 x 297 mm). The margins should be: Left - 1.5", Right - 1", Top and Bottom - 1".**
- b. **Font: 12 points – Times New Roman**
- c. **The reports shall be printed on A4 size with 1.5 spacing and Times New Roman with font size 12, outer cover of the report (wrapper) has to be Ivory color with soft binding.**

The total number of reports to be prepared is 1 copy

- a. **Before taking the final printout, the approval of the concerned guide(s) is mandatory and suggested corrections, if any, must be incorporated.**

The synopsis must provide a complete overview of the project within one page. It should be written in future tense at the submission stage. Later, during final report submission, rewrite it in past tense since the work will be completed.

Prepare the synopsis in three paragraphs as follows:

First Paragraph

Start with a brief introduction to the project. Include the background, domain areas (e.g., healthcare, agriculture, IoT, machine learning, etc.), type of applications, and explain why this domain is important. Mention key developments or recent advancements in the domain. Highlight unresolved issues, limitations of existing solutions, or new emerging opportunities. Clearly state the specific problem or issue your project will address and define the main objective.

If your project is theory-based or simulation-based, name the existing theories/algorithms (e.g., Dijkstra's algorithm, CNN, SVM, etc.) on which it is based. Briefly discuss their advantages and drawbacks, and explain how these motivate your project work.

Second Paragraph

Specify the software development approach you will adopt (e.g., Design Thinking, Agile, DevOps, Waterfall, or any combination) and justify why this method is suitable for your project. List all tools and technologies you will use (e.g., Kafka, spark, edge-cloud, TensorFlow, Flutter, MySQL, Git, etc.) and explain the necessity of each tool. Describe the modules you plan to develop in the project (e.g., data collection module, model training module, user interface module, Flask-JWT and Dockerized for secure deployment etc.) and link each module to the specific tools/technologies that will be used for its implementation.

Third Paragraph

Describe the expected output of each module in future tense. Discuss the key findings, results, or outcomes you anticipate, including any experimental data, accuracy percentages, performance metrics, or improvement in efficiency of the developed system/product. Finally, identify the target audience (e.g., farmers, students, hospitals, industries) and provide a brief market trends analysis or potential impact of your project

In brief the abstract should be

Complete — it covers all aspects of the project work

Concise — it contains no excess wordiness or unnecessary information.

Clear — it is readable, well organized, and not too jargon-laden.

Cohesive — it flows smoothly between the parts.

Chapters (to be numbered in Arabic) Main body of the report divided appropriately into chapters, sections and subsections. The chapters, sections and subsections may be numbered in the decimal form for e.g. Chapter 1, sections as 1.1, 1.2 etc., and subsections as 1.1.1, 1.1.2, 1.1.3 etc. Chapter 2, sections as 2.1, 2.2, etc., and subsections as 2.1.1, 2.1.2, etc.

For phase-1 the chapters to be submitted are:

1. Introduction
 - 1.1 Project Description
 - 1.2 Company Profile
 - 1.3 Dissertation Organization
2. Literature Review
 - 2.1 Existing system study
 - 2.2 Gaps Identified
 - 2.3 Proposed System
 - 2.4 Tools and Technologies used
 - 2.5 Hardware and Software Requirements
3. Software Requirement Specification
 - 3.1 Introduction
 - 3.2 General Description
 - 3.3 Functional Requirement
 - 3.4 External Interfaces Requirements (List external plugins if any)
 - 3.5 Non-Functional Requirements
 - 3.6 Design Constraints
 - 3.7 Other Requirements (If applicable)
4. System Design
 - 4.1 System Perspective /Architectural Design
 - 4.2 Context Diagram
 - 4.3 Class Diagram
 - 4.4 Use case Diagram
 - 4.5 Activity Diagram
 - 4.6 Sequence Diagram
 - 4.7 State Machine Diagram
 - 4.8 Data Flow Diagrams
 - 4.9 Database Design (ER Diagram / Conceptual Scheme)

- 4.10 Architectural Design
 - Data Flow Diagram
 - Structure Charts
- 4.11 Data Definitions/Dictionary
- 4.12 Module Specification
- 4.13 Any Assumptions made

Note: List of appropriate diagrams to be discussed with guides and freeze

Title: Project Title should have a short & straightforward title. Do not include abbreviations/company name/product name in the title.

References: The section on references should list them in serial order in the following format. Latest papers have to be referred to in the reference and all references have to be cited as [1], [2], etc. in the document.

Do not put Wikipedia links and google links or other web sites as references

REFERENCES (As per IEEE format and must be Numbered consecutively in order of first mention) & Annexure / Appendix

- a. Journal Paper: Name initial, "title", Journal name, vol. *(issue), year, pp.*
- b. Eg: Honig, M.L., Steiglitz, K., and Gopinath, B., "Multichannel signal processing for data communication in the presence of crosstalk", *IEEE Trans. Communications.*, vol. 38, (4), 1990, pp. 551–558.
- c. Proceeding / conferences : Name Initial, "title", Proceeding of the ***, Editor name, place, year, pp. ***
- d. Eg: Shin, K.G. and McKay, N.D. "Open Loop Minimum Time Control of Mechanical Manipulations and its Applications" *Proceeding of the . Amer. Contr. Conf., San Diego, CA, ,1984*, pp. 1231-1236.
- e. Thesis (Masters / Doctoral) : Name, initials, "title", University, Year
- f. Eg: Nongpiur, R C, "Near-End Crosstalk Cancellation in xDSL Systems" *Doctoral thesis, University of Victoria, 2005*
- g. Annual reports / manual: Name (optional), "title", Report number, Agencies, Year
- h. Eg: The International Technology Roadmap for Semiconductors, Report-7, ITRS, 2011,
- i. Patent: Name initial, "title of patent", Patent number, date of patent
- j. Eg: Bischoff F, "Apparatus for vapor deposition of silicon," *U.S. Patent 3 335 697*, Aug. 15, 1967.
- k. Books / Manual / standards datahand books : "Title ", publisher, year
- l. Eg: "Ferrous Material Testing Procedure " ASTM Standard- vol.3, American Society for Testing Materials, 2003
- m. ANNEXURE /Appendix : Could include programs, company profile, specimen /representative calculations, Data sheets, additional theory or related information, publications if any or any other information relevant to the work.

- Verbatim reproduction of material available elsewhere should be strictly avoided. Where short excerpts from published work are desired to be included, they should be within quotation marks appropriately referenced.
- Proper attention is to be paid not only to the technical contents but also to the organization of the report and clarity of the expression. Due care should be taken to avoid spelling and typing errors. The student should note that report-write-up forms the important component in the overall evaluation of the project
 - o Separator sheets, used if any, between chapters, should be of thin paper
- The **chapter number must be justified (left or right justified (font size 16)).** Followed by the **title of chapter centered (font size 18), section/subsection numbers along with their headings must be left justified with section number and its heading in font size 16 and subsection and its heading in font size 14.** The **body or the text** of the report should have **font size 12.**

Figures, Tables and Flow Diagrams

- a. Should Communicate primary findings clearly
- b. Display trends and group results
- c. The figures, tables or flow diagrams should be self-explanatory, stand alone, meaningful and clear captions.
- d. The titles of chapter or the caption of figure **should not be just Software Requirements Specification or High Level Design or Software Testing or Flow Diagram** but **should add a few more words or phrase which explains the individuality of the actual work.** Otherwise it looks like the whole class has done the same work.
- e. Do not duplicate tables in figure, use any one of them which clearly conveys the desired information.
- f. Use good quality figures [e.g. 300 dpi]
- g. Use appropriate graphics software for drawing graphs. The graphs should have clear and distinct legends, scales with appropriate units and which are visible.
- h. Don't cut and paste figures and tables from other sources as far as possible. Reproduce your own.
- i. If using figures and tables elsewhere reported is inevitable, mention the primary source or reference. Fig 1.1 Buckling resistance of FW cylinders [23]
- j. **Each figure and table must be referred to in the text before it appears in the text.**
- k. **Place the Caption of figure below the figure and of the table above the table.**
- l. The figures and tables must be numbered chapter wise for e.g.: Fig. 2.1 Block diagram of a serial binary adder, Table 3.1 Primitive flow table, etc.