DEPARTMENT OF COMPUTER APPLICATIONS
NATIONAL ISTITUTE OF TECHNOLOGY, KURUKSHETRA

Combined Guidelines for the Major Project
Innovative Project Design (MCA-215)
Innovative ProjectDevelopment (MCA-216)
Innovative Project Dissertation(MCA-313)

1. Apart from routine semester projects, the students are required to work upon a major project for qualifying MCA course. This major project will comprise of three phases with the first phase starting in sem 3 pertaining to the course Innovative Project Design (MCA-215); second phase is Innovative Project Development (MCA-216) in sem 4; and third phase is Innovative Project Dissertation (MCA-313) in sem 5. The work done during the each sem(3rd, 4th and 5th) is to be presented and submitted in the last week of every semester.

2. **Project Coordinator:** There will be a major project coordinator for the batch who will coordinate all project related activities of that batch for all the three codes MCA 215, MCA 216, and MCA 313.

3. **Project Groups:** Project Groups shall be formed as per the choice submitted by students, tentatively in the month of May after completing sem 2. Every project group may contain two to three students. Single student in a group is strictly not allowed.

4. **Project Supervisor / Mentor:** Every project group may have one to two supervisors. Students may submit the choice of supervisor(s). However, final decision pertaining to supervisor allocation is to be decided by the competent administrative authorities. The students are advised to work under the supervision of their mentors.

   One supervisor can be chosen from industry or open source community and his credentials needs to be conformed through his/her any public profile. Anemail from his/her public email id should confirm his approval.

5. Immediately after group formation and supervisor(s) allocation, all members of respective group should exchange their contact details with their respective supervisors. In addition, they should also seek guidelines regarding deciding the project domain.

6. **Routine Meetings and Attendance:** Every group is required to meet the supervisors regularly or on weekly basis. Atleast two meetings per group per semester will be scheduled with the course coordinator for recording the progress done since the last meeting. Attendance will be granted accordingly.

7. **Timeline:** Domain of project is to be identified by student by the end of August and submit to the project coordinator. The end sem presentation will be scheduled around November for MCA 215 and MCA 313; and around May for MCA 216.

8. **Implementaion**: The running code should be uploaded on github.

9. **Expectations during each phase:**
   a. **Phase I: Innovative Project Design (MCA-215)**
      The project proposal focussing on current state-of-the-art technologies is to be made and presented. The report should specifically mention the objectives and the novelty of the proposal.
   b. **Phase II: Innovative Project Development (MCA-216)**

The proposal presented in sem 3 is to be implemented and subsequently results are produced which are better than the existing mechanisms or atleast competitive.

Each group is required to publish one research paper in this semester as per Annexure III. Live execution of the developed system is to be demonstrated and deployed.

c. **Phase III: Innovative Project Dissertation (MCA-313)**

The students are required to improve upon the project based on recommendations of the supervisor and the evaluation committee. One research paper is to be published in this semester. A detailed dissertation is to be produced (excluding code).

10. Marks Distribution for each semester is as follows:

Innovative Project Design (MCA-215) : Total Credits 2 (Max Marks: 100)		
Sr. No.	**Criteria**	**Marks**
	Internal Assessment	
1.	Attendance	20
2.	Supervisor Remarks	20
3.	Report in 2 Col. IEEE Format **	20
4.	**End Sem Assessment (Presentation)***	**Marks (40)**

Innovative Project Development (MCA-216) : Total Credits 4 (Max Marks: 100)		
Sr. No.	**Criteria**	**Marks (100)**
1.	Attendance	10
2.	Supervisor Remarks	10
3.	Report **	20
4.	Publication	20
5.	**End Sem Assessment (Presentation)**	**Marks (40)**

Innovative Project Dissertation (MCA-313) : Total Credits 6 (Max Marks: 100)		
Sr. No.	**Criteria for Internal Assessment**	**Marks (100)**
1.	Attendance	10
2.	Dissertation**	30
3.	Publication	20
4.	**End Sem Assessment (Presentation)***	**Marks (40)**

11. **Publication:** Both the research papers have to be from two different categories as listed below:

a. Research: The Research category incorporates papers that present novel work. The submissions should list the research gaps and research contributions filling the said gaps. A section comparing the results of the research with existing benchmarks is highly desirable.

b. Trends and Perspectives: The Trends and Perspectives category explores the state of the art in the mentioned disciplines. It should provide a comprehensive overview of the topic chosen along with a comparative study of the existing tools, techniques, and works done till date.
c. Applications and Deployment: The Applications and Deployment category accepts papers showcasing the latest advancements and applications of the technology or methodology in order to explore its challenges and benefits in a practical setting. The papers should list the benefits; the presented application reaps.

Marks Distribution for each published paper is as follows:

Marks	Requirement
20	(a) Published /Accepted in unpaid peer reviewed refereed journals indexed in WoS*/Scopus#. OR (b) Published/Presented in peer reviewed conference proceedings indexed in WoS*/Scopus#.
6-12 ($)	(a) Published in an Unpaid peer reviewed refereed Journal OR (b) Presented in peer reviewed international renowned conference organized by IIT/NIT/A premier R&D organization/ professional societies.

* https://mjl.clarivate.com/search-results
\# https://www.scopus.com/sources.uri
$ In this case, the paper will be reviewed internally by the departmental committee.

12. Guidelines for Presentation
   a. Presentation time per group is 20 minutes. 20 minutes include 15 minutes ppt, 05 minutes queries. The total time of presentation must be equally divided among all the students of the group.
   b. No big stanzas, just Bullets. Be consistent in font style and size; color combination; styling of references throughout. These guidelines are just to start with. You can deviate wherever you feel like strongly.
   c. The modules of the project on which the student has worked should be clearly divided among the members of the group.

Slide 1: Title slide
Slide 2: Outline: Motivation, Introduction, Literature Review / Experimental Systems Available, Gaps Identified, Problem Statement, Methodology, Timeline(), etc.
Slide 3 onwards
   a. **Motivation:** Possibly with Statistics
   b. **Introduction:** The "What" of all the keywords of Title, May be General Architecture, Benefits, Applications / Use cases / Scenarios, Classification, Challenges (Highlight the challenges you are working for).
   c. **Literature Review:** 3-4 best projects / research papers in detail. 1-2 slides per project. Then Comparative table(s)

d. Table 1: (1-2 slides)

Literature Reference	Feature Selection Approach	Classification Approach	...	...	+	-
Sharma et al [8]						
Li and Tsu [3]						
...						

More tables can be there depending on the project.
  e. Gaps Identified / Limitations of existing works (projects), if any
  f. **Problem Statement:** 1-2 complex sentences stating the aim/goal of the project followed by a list of 2-3 objectives.
  g. Methodology
  h. Main Work, Implementation, ...
  i. **References:** Maximum 15-20 references with 3-4 references per slide.

13. Guidelines for Project Report
  a. As it is a single project, the project reports will be cumulative from Sem 3 to Sem 5.
  b. **Number of Copies:** A group is required to submit only one copy of the Project Report in each semester.
  c. **Binding:** A tape bound report is required for all the three phases.
  d. **Supervisor Consent:** Student should get their supervisor(s)' consent registered on the reports in the form of their signatures. The students are advised to show a soft copy of the reports to their respective supervisor(s) atleast one week before binding.
  e. Two or more students working on the same project shall clearly specify their contribution i.e. their modules must be different. *One page document mentioning the exclusive contribution of individual student must be included in the report.*
  f. The reports should preferably be in LATEX.
  g. Project report should be passed through plagiarism check. A copy of the plagiarism report (only last page, on which similarity index is mentioned) should be appended to the printed project report before submission. The text similarity above 15% is not acceptable at any cost. If a case of plagiarism (>15%) is found in the report then the group will be highly penalized.

Percentage of Plagiarism	Penalty
<=15%	Zero Penalty
>15%	Non-zero Penalty; Project course registration may be cancelled.

Template for Report of Sem 3
<Title of the Project>
Should be prepared in standard 2 column IEEE format

Project Summary: *(ABSTRACT)
(The project summary should contain rationale of the research, its scientific objectives, what hypothesis/model to be tested, the main experiments to be carried out, and an estimate of the significance to the field of research if the objective is reached in terms of fundamental understanding and or application.)
Objective (in bullets) :*
(These should be very specific, to be given in bullet points for the work to be carried out (not more than 6 bullet points). These will serve as evaluation criteria at monitoring stage.)
Expected output and outcome of the proposal:*
(The products, services or facilities that would result from the project activities; and the benefits that may happen from the project activities may be highlighted.)

Other Technical Details
1. **Origin of the Proposal:** *(Maximum 1 page)*
   (Scientific rationale for doing this work should be elaborated)
2. **Review of status of Research and Development in the subject**
2.1 International Status: *(Maximum 2 pages)*
 (People working in the area worldwide and their contributions must be properly highlighted with recent references and reviews. It should include research work as well as the experimental systems available worldwide)
2.2 National Status: *(Maximum 1 page)*
   (Same as above to cover the contribution of Scientists with Indian affiliation in the project area)
2.3 Importance of the proposed project in the context of current status *(Maximum 1page)*
  (Highlight what is the new area or gap which will be solved in the project in relating to what is already known. This is a very important section to project the novelty content of the proposal)
2.4 If the project is location specific, basis for selection of location be highlighted: *(Maximum 1/2 page)*
3. **Work Plan:**
3.1 Methodology: *(Maximum of 5 pages)*
   (It should contain all the details of how each of the objectives will be addressed. This section must be detailed and have clear plans, not vague and generalized statements. It should have several schemes, tables, figures, equations etc. in addition to text, explanation and justification)
3.2 Time Schedule of activities giving milestones through BAR diagram. (Maximum1 page)
4. **Name and address of experts/ institution interested in the subject / outcome of the project.**
5. **Bibliography**

Template for Report of Sem 4 and Sem 5
<Title of the Project>

Word count	:	Minimum 10,000 for Sem 4 report and in range 20,000-25,000 for sem 5 report (excludes abstract, references)
Page Margins	:	Top: 2.54, Bottom: 2.54, Left: 2.54, Right: 3.81, Gutter: 0
Orientation	:	Portrait
Page No.	:	Bottom, Centred, Front pages numbered as i, ii, iii etc. Chapter pages and references numbered as 1, 2, 3 etc.
All fonts	:	Times New Roman
Chapter No.	:	Font size 14 Sentence case + Bold
CHAPTER TITLE	:	Font size 14 Capital case + Bold
FIRST LEVEL OF HEADING:		Font size 12 Capital case + Bold
Second Level of Heading	:	Font size 12 Sentence case + Bold
Third Level of Heading	:	Font size 12 Sentence case + Italic (Without bold)
Table Caption	:	Font size 12 Sentence case + Bold(at the top of the Table)
Figure Caption	:	Font size 12 Sentence case + Bold(at the bottom of the Fig.)
Body Text	:	Font size 12 Normal
Line Spacing	:	1.5 lines
Binding no. of copies	:	1 hard bound with electronic version(word/pdf)

The arrangement of pages in the report must be as given and should be strictly as per the following template:

Cover Page: Design as per the enclosed template only. (Do not put page number on this page)

Declaration: Use the template enclosed.

Acknowledgements: Not exceeding one page

Abstract: Not exceeding one page

List of Figures

List of Tables

Table of Contents (The chapter names are just indicative of the contents)

Chapter 1: Introduction (1000-1500 words)

Chapter 2: Background (Optional for sem 4) (2,000-3,000 words)

Chapter 3: Literature Review (3,000 -3,500 words)

Chapter 3: Project Objectives (500-700words)

Chapter 4-6: Objective Specific names of the chapters followed by Results and Discussion (4,000-5,000words)

Chapter 7: Conclusions and Future Scope (300-600 words)

References in IEEE format

Annexure 1: Installation Instructions

Annexure 2: Specific Contribution of each student

Annexure 3: List of Publications, if any (Enclose the full published papers)