

Date : January 23, 2023

Policy for Project and Report Writing : 2022-23

Major Project is in the curriculum of final year of various programs (in all the specializations). This policy covers all the areas related to major project including policy to be adopted for formation of project groups comprising the students of the class, allotment of supervisors, finalization of topics, submission and approval of topic / synopsis, progress of project work and its monitoring, presentations, development of prototype / software etc., report submission and award of marks.

Nominating the Faculty In-charge for Project Work

The faculty member (one or two) from the department is to be nominated by HOD concerned and this faculty I/c will supervise all the affairs related to the major project. The faculty I/c will serve under the supervision of HOD concerned. HOD himself / herself can be the faculty I/c.

Identifying Supervisors

The information regarding name, designation, areas of interest is to be collected from all the faculty members who can supervise the project work. After collecting all related information, faculty I/c will compile the information and ensure that this compiled information is available to the students.

Formation of Students Groups (preferably in VI semester of study)

- a. Students can be asked to form their project group and in each group, there will be 3-5 students.
- b. Prepare a list of students based on their academic performance *i.e.* university result till previous semester – as much available, taking average percentage. Sort it based on average percent of students. Divide the number of students into the same number of batches which are equal to the number of member in a project group (number of students in a project group). For example, there are 60 students and a project should comprise 5 students. Thus, total number of project groups will be $60/5 = 12$ groups. There are 7 faculty members who can be project supervisor. Divide the students (60) into five batches (no. of students in a project group) *i.e.* batch A, B, C, E and E. In batch-A, there are 12 students and will be the project team / group leader. Select four more members to form a complete project group, one from each batch, based on the choice of project leader. In case of confliction, adopt suitable method for decision making (academic progress, sameness, interest etc.). In this way, all the project groups will be finalized comprising students of varying academic level.

Allotment of Supervisor

Supervisor will be allotted to the project groups (one or more project groups to one or more supervisors / co-supervisors) based on mutual understanding between the supervisor and project group, area of interest or on discussion. For vacant project groups, faculty I/c will allot the supervisor. All the name of supervisors and project groups will be finalized by faculty I/c, in consultation with HOD concerned.

Outcome of the Project Work

From each project group, one publication is required (preferably in SCI / SCOPUS / UGC-Care Listed Journals / Conferences of repute like IEEE / Springer etc.). Further, at department level, the projects should be divided into following categories and for their better work, multi-disciplinary approach should be incorporated :

- Quality Publications (10% of total projects)
- Patent / Copy-right (10% of total projects)
- Product Development / Proto-type / Teaching Aid Development (20% of total projects)
- Participation in various competitions (e.g. Hackathon, Various project competitions etc.; (10% of total projects)

Try to form few multi-disciplinary projects and the areas should also include the topics related Energy / Environment / Society / Nature etc.

Report Writing and Formatting Rule

A report is the concise literature representation of the work carried out in major project.

Page Dimensions, Margins and Quality

The page dimensions of the final copies of the thesis should be 290mm x 205mm. Standard A4 size (297mm x 210mm) paper may be used for preparing the copies. It should have the following page margins:

Top edge	: 01 Inch	Bottom edge	: 01 Inch
Left side	: 1.5 Inch	Right side	: 01 Inch

Undertaking of Students

As mentioned in sample page no. 01 (refer MS-word file 'Pages_Upto_Intro.doc'). It should be typed in one and half line spacing, Times New Roman font with font size 12 within the specified margin of the page.

Bonafide Certificate of Supervision

As mentioned in sample page no. 2 (refer MS-word file 'Pages_Upto_Intro.doc'). It should be typed in one and half line spacing, Times New Roman font with font size 12 within the specified margin of the page.

Abstract

Abstract should be an essay type of narration not exceeding four pages outlining the research problem, the methodology used, a summary of the findings, possible applications of the research, and suggestions/directions for future research. The abstract should not contain cross citations. It should be typed one and half line spacing, in Times New Roman with font size 12 within the specified margin of the page. It should begin with the heading as the title of the thesis in title mode centered (bold), the name of candidate (next line) centered, and then 'ABSTRACT' with font size 14, bold and centered. The text of abstract should begin thereafter.

In the Project Work Report, the Chapter scheme may be as follows (or may vary, as prescribed by dept. concerned; depending upon nature of work etc.) :

- Chapter – 1 : Introduction (2-3 pages)
It gives brief idea about the work, how it is to be completed and what is to be done in this work. Aspects covered in this work are also discussed with the relevance of topic, in national or global scenario.
- Chapter – 2 : Review of Literature (10-15 pages)
It gives the detailed background knowledge about the work to be carried out. It may include theoretical knowledge from books, internet, research papers, newspaper, magazine etc. latest researches should also be included in the area of concern.
- Chapter – 3 : Methodology / Experimental Setup / Procedure to develop software (2-3 pages)
It gives the detailed procedure to do the work. .
- Chapter – 4 : Work / Findings / Software Development / Prototype Development (up to 40 pages)
It gives the detailed work to be done. There may be 2 to 3 chapters, based on the requirement / suitability.
- Chapter – 5 : Discussion (2-5 pages)
In this chapter, own views about the work are presented, including its justification / viability / feasibility / suitability etc. Further, developments in global arena are also discussed. .
- Chapter – 6 : Conclusions and Future Work (2-3 pages)
In this chapter conclusions are to be presented along with future work that may be carried out as the development work beyond the coverage of this work (which is presented in this).
- Chapter – 7 : Bibliography / References
Detailed list of source is to be presented in this chapter. Adopt Harvard style of citing and writing references.

Tables and figures

By the word Table is meant the representation of tabulated numerical as well as non-numerical data in the body of the thesis and also in the appendices. All other non-verbal material used in the body of the thesis and appendices such as charts, graphs, maps, photographs and diagrams may be designated as figures. A proper representation of a table or a figure and its placement immensely adds to the ability to comprehend the work. Here are few suggestive guide lines in this regard which, of course, in no way substitute the ingenuity and creativity of an author.

- A table or figure including its caption should be accommodated within the prescribed margin limits and should appear on the page where its reference is made or on the page following the page in case it is not possible to place it on the same page.
- Table and figures on half or less in length should necessarily appear on the same page along with the text. However, they should be separated from the text both above and below by double spacing.
- All tables and figures should be prepared on the same paper or material used for the preparation of the rest of the thesis.
- Captions of table/figures may use characters, numerals or symbols in the title mode.

- Kumar Neeraj and Shanker Kripa, 2000a, A theory of balancing mechanism for comparing the effectiveness of imbalance measures in FMS loading, Proceedings of the Special International Conference on Production Research (ICPR) 2000, Bangkok, August 2-4, 2000, pp 133-139.
- Kumar Neeraj and Shanker Kripa, 2000b, Interaction among FMS loading objectives: a parabolic relationship between workload balance and machine utilization, Proceedings of the Special International Conference on Production Research (ICPR) 2000, Bangkok, August 2-4, 2000, pp 234-239.
- Snyder, L.V., 2004. *Lehigh University*. [Online] (1.3) Available at: <http://www.lehigh.edu/~lvs2/download/vrpsolver.html> [accessed 17 December 2008].

Appendices

Appendices in a thesis are provided to give supplementary information, which if included in the main text may serve as a distraction and could tend to dilute the central theme under discussion.

- Each appendix must find its reference in the main body of the thesis.
- Appendices shall carry the title of the contents reported and the same title shall be made in the contents page also.
- Appendices should be numbered using Roman numerals in upper case, e.g. Appendix I, Appendix II, etc.
- Figures, tables, equations and references appearing in appendices should be numbered locally to an appendix e.g. II.1, II.2, III.5 etc and should be referred to an appropriate places just as in the case of chapters.

List of Publications of the Candidate

The list of publications made by research scholar during the period of research and pertaining to the thesis submitted for the degree should be listed in chronological order in the order of international refereed journals, national refereed journals, proceedings of the conferences, in the same style as followed in providing the list of references. These publications, wherever relevant, should be referred to in the main body of the thesis.

Typing Instructions

General

- This section includes additional information for final typing of the thesis. Some information given earlier under 'Manuscript Preparation' shall also be referred to.
- The impression on the typed/ duplicated/ printed copies should be black in colour.
- Certain symbols characters or markings not found in a standard word processor may be hand written using Indian ink or a stylus pen (in case stencil sheets are used). Corrections, interlineations and crossing out of letters or words are not permitted in any of the copies of the thesis intended for submission. Erasures, if made, should be neatly carried out in all copies.
- A sub-heading at the bottom of a page must have at least two full lines below it or else it should be carried over to the next page.
- The last word of any page should not be split using a hyphen.

examples sub-section 4 under section 3 of chapter 2 should be numbered as 2.3.4. The heading for a section or a sub-section should immediately follow in the same line after the number with a single space in between. Appendices and their sections and sub-sections should be numbered in an identical manner using upper case Roman e.g. I, II, starting with Appendix I.

Numbering of Tables and Figures

Tables and figures appearing anywhere in the thesis should, bear appropriate numbers. The rule for assigning such numbers is illustrated through an example. If a figure in Chapter 3, happens to be the fourth then Fig. 3.4 is assigned to that figure. Identical rules apply for tables except that the word figure is replaced by the word Table. If figures (or tables) appear in appendices, for example the third figure in Appendix II will be designated as Fig. II.3. If a table is to be continued into the next page, then a line should be drawn underneath an unfinished table and the phrase continued on page no... placed on the right side and underlined should be typed just below the line. The top line of the table continued on the next page should, for example read Table 2.1 (continued) placed centrally and underlined. While referring to a figure or table in the body of the thesis it should be referred to as Fig. 3.4, Table 2.1, Table II.6, and so on.

Numbering of Equations

Equations appearing in each Chapter or Appendix should be numbered serially, the numbering commencing a fresh for each Chapter or Appendix. For example, the eighth equation in Chapter 2, should be numbered as (2.8). While referring to this equation in the body of the thesis it should be referred to as Eqn. (2.8).

Submission

In total **Three copies** of hard bound, printed on single / both sides, alongwith one CD containing all the matter in 'pdf' are to be submitted at the time of final submission. The number of pages, in total, may vary from 60 to 150.

Department can update this policy (in the same line) based on their requirement through DQAC. Further, student / faculty concerned are required to refer to the PG manual of AKTU, Lucknow, available at www.aktu.ac.in , and / or guidelines issued by department concerned.

(Dr. Brijesh Singh)

Director

Copy for information and necessary action to :

1. Dean-Academics and IQAC
2. All the HODs
3. Web-site



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Project Groups : Major / Minor Project : 20..... – 20.....

Program (B Tech / MBA / MCA / B Pharm) : Department :

Project Group No. : Date :

Project Group Member :

S. No.	Name of Student	AKTU Roll No.	Sem / Branch / Section	Mobile	E-mail	Sign
1						
2						
3						
4						

Proposed Title of Project Work :

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Short Description of Project Work (to be carried out) :

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Supervisor's Name : (Sign of Supervisor, if accepted)

HOD's Remarks : (Signature of HOD)



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Department of # 20.... - 20..... (Odd / Even Sem)

Evaluation of Project Presentation (Date :)

Program : Specialization :

Title of the Project :

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Description / Progress of the Project Work :

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Supervisor's Name : Department :

Supervisor's Remarks : Supervisor's Sign :

HOD's Remarks : HOD's Sign :

Date of Presentation : Time : Room No. :

Rubrics Evaluated : No. of Presentation :

Evaluation : Type of Presentation : Regular / Repeated /

Roll No.	Name of Students	Sem / Branch / Section	Rubrics #	Rubrics #	Rubrics #	Rubrics #	Total Marks Obtained (.....)

Remarks :
.....

Name and Signature of Evaluators : **Result : Repeat / Qualify :**

Signature					
Name					

RUBRICS FOR MAJOR PROJECT EVALUATION

	Review	Agenda	Assessment	Review Assessment Weightage	Over all Weightage
Internal Evaluation	Review 1	Project Synopsis/ Proposal Evaluation	Rubric R1	10	150
	Review 2	Feasible Methodologies	Rubric R2	15	
	Review 3	Mid-term Project Evaluation	Rubric R3	25	
	Review 4	Use of Engineering Principles and Final Design	Rubric R4	35	
	Review 5	End Semester Internal Project Evaluation	Rubric R5	35	
	Review 6	Project Report Evaluation	Rubric R6	30	
External Evaluation					200
Total					350

Department concerned may update these rubrics (based on need, through DQAC)



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Rubric # R1: Project Synopsis/ Proposal Evaluation ** Review-1 ** Maximum Marks: 10

Level of Achievement								
	Rubrics	Excellent (5)	Good (4)	Average (3)	Acceptable (2)	Unacceptable (1)	Weightage	Score
R11	Justification of the identified problem (CO-x)	Detailed and extensive explanation of the purpose and literature survey	Good explanation of the purpose and literature survey	Average explanation of the purpose literature survey	Moderate explanation of the purpose and literature survey	Minimal explanation of the purpose and literature survey	1	
R12	Study of the Existing System and Feasibility of Project Purpose (CO-x)	Detailed and extensive explanation of the specifications and the limitations of the existing systems	Collects a great deal of information and good study of the existing systems;	Moderate study of the existing systems; collects some basic information	Explanation of the specifications and the limitations of the existing systems not very satisfactory; limited information	Minimal explanation of the specifications and the limitations of the existing systems; incomplete information	1	

Evaluation Record :

Roll No.	Name of Students	Batch / Section	Rubrics #R11 Justification of the identified problem	Rubrics # R12 Study of the Existing System and Feasibility of Project Purpose	Total Marks Obtained (.....)

Remarks, if any :

Name and Signature of Evaluators :



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Rubric # R2: Feasible Methodologies ** Review – 2 ** Maximum Marks: 15

Level of Achievement								
	Rubrics	Excellent (5)	Good (4)	Average (3)	Acceptable (2)	Unacceptable (1)	Weightage	Score
R21	Feasible Methodologies (CO-x)	Clear definition of solution, procedure and methods. Different alternatives are considered and evaluated.	Clear definition of solution, procedure and methods. Few alternative designs are evaluated	Solution procedure and methods are not clearly defined. Few alternative designs are evaluated.	Outlines a general procedure but does not clearly identify methods. No alternative designs are given	No procedure, tries things out unsystematically	3	

Evaluation Record :

Roll No.	Name of Students	Batch / Section	Rubrics # R21 Feasible Methodologies	Total Marks Obtained (.....)

Remarks, if any :

Name and Signature of Evaluators :



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Rubric # R3: Mid-term Project Evaluation ** Review-3 ** Maximum Marks: 25

		Level of Achievement					Weightage	Score
Rubrics	Excellent (5)	Good (4)	Average (3)	Acceptable (2)	Unacceptable (1)			
R31	Design Methodology (CO-x)	Divison of problem into modules and good selection of computing framework Appropriate design methodology and properly justification	Divison of problem into modules and good selection of computing framework Design methodology not properly justified	Divison of problem into modules but inappropriate selection of computing framework Design methodology not defined properly	Partial divison of problem into modules and inappropriate selection of computing framework Design methodology not defined properly	Modular approach not adopted Design methodology not defined	2	
R32	Planning of Project Work and Team Structure (CO-x)	Time frame properly specified and being followed Appropriate distribution of project work	Time frame properly specified and being followed Distribution of project work inappropriate	Time frame properly specified, but not being followed Distribution of project work uneven	Time frame properly specified, but not being followed Uneven distribution of project work and no synchronization	Time frame not properly specified In- appropriate distribution of project work	3	

Evaluation Record :

Roll No.	Name of Students	Batch / Section	Rubrics # R31 Design Methodology	Rubrics # R32 Planning of Project Work and Team Structure	Total Marks Obtained (.....)

Remarks, if any :

Name and Signature of Evaluators :



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Rubric # R4: Use of Engineering Principles and Final Design ** Review-4 ** Maximum Marks: 35

		Level of Achievement					Weightage	Score
Rubrics	Excellent (5)	Good (4)	Average (3)	Acceptable (2)	Unacceptable (1)			
R41	Social, ethical, environmental and cultural concerns in project conception (CO-x)	Clear evidence of ability to use Social, ethical, environmental and cultural concerns in project	Good evidence of ability to use Social, ethical, environmental and cultural concerns in project	Sufficient evidence of ability to use Social, ethical, environmental and cultural concerns in project	Some evidence of ability to use Social, ethical, environmental and cultural concerns in project	No evidence of ability to use Social, ethical, environmental and cultural concerns in project	2	
R42	Use of Engineering Principles (Review-4) (CO-x)	Clear evidence of ability to use engineering principles to design components, devices or systems	Good evidence of ability to use engineering Principles to design components, devices or systems	Sufficient evidence of ability to use engineering principles to design components, devices or systems	Some evidence of ability to use engineering principles to design components, devices or systems	No evidence of ability to use engineering principles to design components, devices or systems	2	
R43	Final Design (CO-x)	Final design demonstrates effective use of design process, engineering standards, economics to satisfy design objectives and real-world constraints	Final design demonstrates good use of design process, engineering standards, economics to satisfy some design objectives and real-world constraints	Final design demonstrates some use of design process, engineering standards, economics to satisfy some design objectives and real-world constraints	Final design demonstrates little use of design process, engineering standards, economics to satisfy few design objectives and real-world constraints	Final design does not demonstrate the use of any design process, engineering standards, economics to satisfy any design objectives and real-world constraints	3	

Evaluation Record :

Roll No.	Name of Students	Batch / Section	Rubrics # R41	Rubrics # R42	Rubrics # R43	Total Marks Obtained (.....)
			Social, ethical, environmental and cultural concerns in project conception	Final Design	Use of Engineering Principles	

Remarks, if any :

Name and Signature of Evaluators :



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Rubric # R5: End Semester Internal Project Evaluation ** Review-5 ** Maximum Marks: 35

Level of Achievement								
	Rubrics	Excellent (5)	Good (4)	Average (3)	Acceptable (2)	Unacceptable (1)	Weightage	Score
R51	Analyzing the results gained from the tools (CO-x)	Clear evidence of correct conclusion of results gained from the tool	Good evidence of correct conclusion of results gained from the tool	Some evidence of correct conclusion of results gained from the tool	Little evidence of correct conclusion of results gained from the tool	No evidence of correct conclusion of results gained from the tool	4	
R52	Project Demonstration (CO-x)	All defined objectives are achieved Each module working well and properly demonstrated	All defined objectives are achieved Each module working well and properly demonstrated	All defined objective s are achieved Modules are working well in isolation and properly demonstrated	Some of the defined objective s are achieved Modules are working well in isolation and properly demonstrated	Defined objectives are not achieved Modules are not in proper working	3	

Evaluation Record :

Roll No.	Name of Students	Batch / Section	Rubrics # R51 Analyzing the results gained from the tools	Rubrics # R52 Project Demonstration	Total Marks Obtained (.....)

Remarks, if any :

Name and Signature of Evaluators :



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Rubric # R6: Project Report Evaluation ** Maximum Marks: 30 **

		Level of Achievement					Weightage	Score
	Rubrics	Excellent (5)	Good (4)	Average (3)	Acceptable (2)	Unacceptable (1)		
R61	Project Report (CO-x)	Project report is according to the specified format References and citations are appropriate and well mentioned	Project report is according to the specified format References and citations are appropriate but not mentioned well	Project report is according to the specified format but some mistakes In-sufficient references and citations	Project report is not fully according to the specified format In-sufficient references and citations	Project report not prepared according to the specified format References and citations are not appropriate	2	
R62	Description of Concepts and Technical Details (CO-x)	Complete explanation of the key concepts Strong description of the technical requirements of the project	Complete explanation of the key concepts In-sufficient description of the technical requirements of the project	Complete explanation of the key concepts but little relevance to literature In-sufficient description of the technical requirements of the project	All key concepts are not explained and very little relevance to literature In-sufficient description of the technical requirements of the project	Inappropriate explanation of the key concepts Poor description of the technical requirements of the project	2	
R63	Conclusion and Discussion (CO-x)	Results are presented in very appropriate manner Project work is well summarized and concluded Future extensions in the project are well specified	Results are presented in good manner Project work summary and conclusion not very appropriate Future extensions in the project are specified	Results presented are not much satisfactory Project work summary and conclusion not very appropriate Future extensions in the project are specified	Results presented are not much satisfactory Project work summary and conclusion not very appropriate Future extensions in the project are not specified	Results are not presented properly Project work is not summarized and concluded Future extensions in the project are not specified	2	

Evaluation Record :

Roll No.	Name of Students	Batch / Section	Rubrics # R61 Project Report	Rubrics # R62 Description of Concepts and Technical Details	Rubrics # R63 Conclusion and Discussion	Total Marks Obtained (.....)

Remarks, if any :

Name and Signature of Evaluators :