UG PROJECT GUIDELINES

Strive to Excel

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Guidelines for Final Year Project

Preamble

Final Year Project (FYP) plays a major role in the academic career of the undergraduate students. It is an exemplary effort that portrays the graduate attributes and the program-specific outcomes attained by an undergraduate student. An effective execution of the FYP gives fruitful outcomes for the student as well the department, and in some cases provides an effective contribution to the society. The guideline in this document is a consortium of best practices based on the guidelines from regulatory authorities such as the affiliating university, the AICTE, UGC and other project management principles laid by Professional Project Management Societies. The guidelines are intended to provide the supervisor as well the students a clear set of procedures and expectation which makes it possible for evaluation to be easier, more defined, and successful. This document specifies certain program specific considerations which is not detailed in the regulation.

Eligibility

The eligibility criteria for the undergraduate students are to be followed as per the regulations of the Institution during admission. The Final Year Project (FYP) comprises of two phases namely Phase – I and Phase – II. Phase – I is to be carried out during Semester 07 and Phase – II, which is a continuation of Phase – I should be carried out during Semester 08.

Minimum Requirement

There is no minimum credit requirement to undertake Phase - I of the FYP, however a candidate must have passed Phase – I to carry out the works related to Phase – II, failing which the candidate can undertake Phase – I in the subsequent semester.

FYP can be carried out only under a ***qualified supervisor*** in the department concerned. For undergraduate programs, a ***qualified supervisor*** means a faculty possessing M.E. / M.Tech. degree of the department which offers the program of study of the student. A qualified supervisor shall supervise a ***maximum of 3 projects***[1], however it is advisable not to allocate more than 2 projects per supervisor. The size of a project batch shall not exceed 4 students (3 advisable). It is recommended to carryout project as a group activity to maintain the quality of coordination and supervision. This also provides an experience with teamwork which is a commonly expected attribute in industry and research[2]. Further, individual projects are usually less recommended where the faculty-student ratio is less than 1:10 due to inadequacy of quality-mentoring time.

A student/batch of students, in certain cases, be permitted to work on projects in an Industrial/Research organization/ other Department, on the recommendation of the Head of his/her department. In such cases, the project work shall be jointly guided by a supervisor of the department and an expert as a co-supervisor. The student shall be instructed to meet the supervisor periodically and attend the review committee meetings for progress evaluation. Co-supervisors interested in proposing interdisciplinary projects shall have a proven record of having produced at least 6 candidates with the highest grade ('O' in case of Autonomous Regulations R2017 ***[OR]*** 'S' in case of Anna University Regulations R2013) in the past 3 years in their respective departments.

Duration

The duration of each phase of the project shall not exceed 15 weeks. The deadline for the submission of the project report shall be during the 14th week of the semester and the galley proof which includes all the corrections specified during the third review shall be submitted normally during the 15th week and the fair copy of the report shall be submitted at least a week ahead of the viva-voce, facilitating the submission of the thesis to the internal examiner.

Process

FYPs are characterized as an extended piece of work based on research, underpinned by a range of relevant sources which are contextualized, incorporate

elements of critical thinking, and should draw conclusions based on clearly defined and justifiable methodologies[2]. The major objectives of the FYP are as follows[3]:

- Enable students to harvest the maximum benefit from this work
- Enhance the knowledge of the student in a specific area, right from collection of data to drafting a technical report
- Develop works of high quality to meet research and industrial standards

One can visualize the overall process of the FYP through Figure 1, shown below.
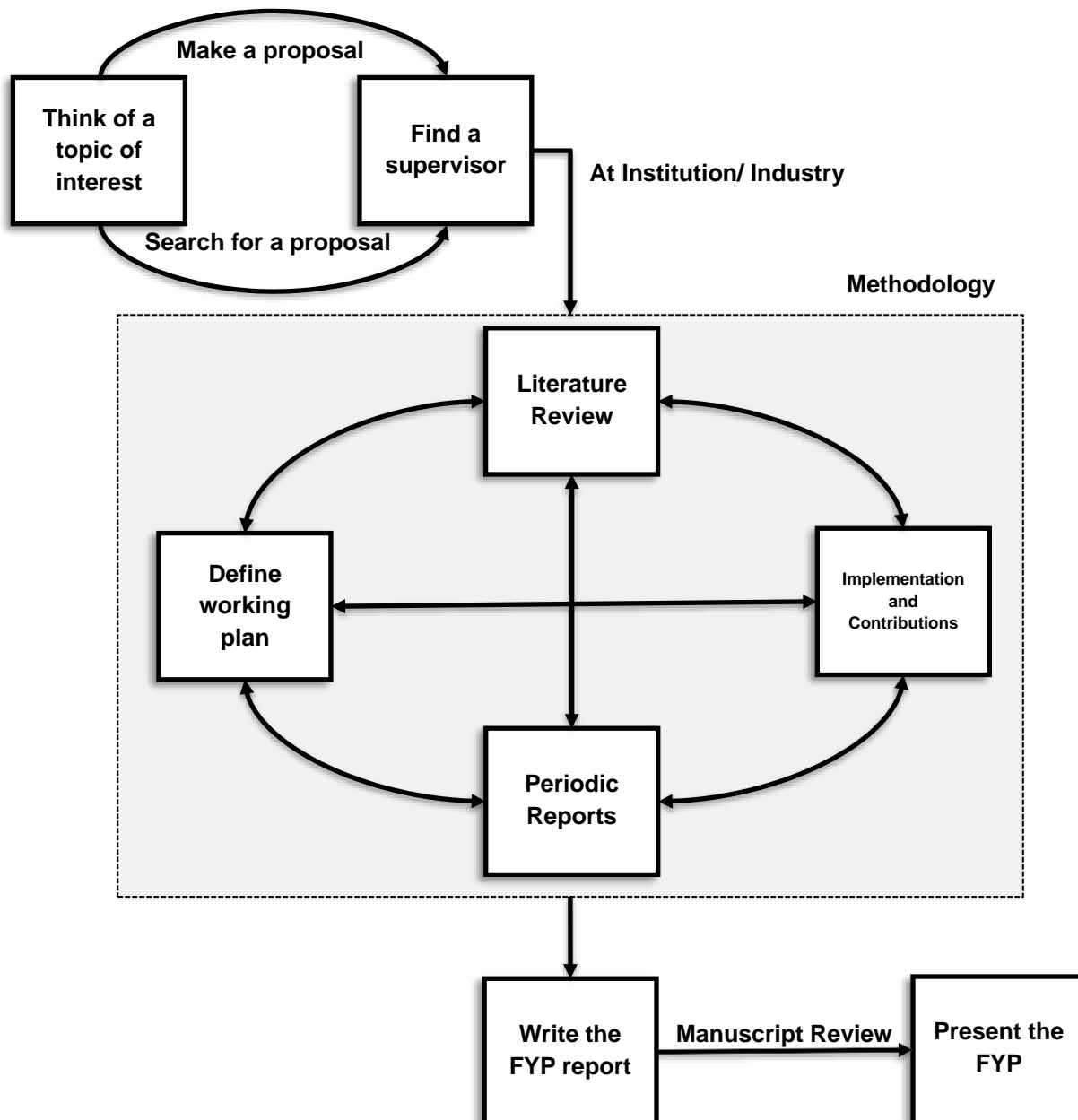

Figure 1: Overall FYP Process[3]

Allocation

FYP, being a part of the curricula to develop the subject-specific and generic skills, plays a major role in exhibiting the knowledge acquired by the students. There are a number of factors that determine the allocation of the project[4]. The project allocation can be done based on any one of the following criteria.

Project allocation based on the preferences of both (or negotiation between) students and supervisor

This is one of the most common methods that can be used for the allocation of the project, where the student prefers to undergo the FYP under a specific qualified supervisor and the supervisor has preferences over a team of students. In such a case, the student and the supervisor need to approach the Head of the Department and the Project Coordinator stating the expression of interest to carryover the project. The project shall be provisionally allocated at this moment. The Head of the Department and the Project Coordinator shall advertise the provisional allocation to all other qualified supervisors. In the event of not receiving any conflict-of-interest from the other qualified supervisors, the allocation can be confirmed. On receiving a conflict-of-interest, in writing over the project allocation, the parties involved namely the Head of the Department, Project Coordinator, the provisionally allocated supervisor and the supervisor expressing a conflict shall resolve the issue and proceed with allocation. Conflict-of-interest in these cases shall be expressed if and only if both the supervisors share the same domain of interest and the project abstract/title is of conflicting nature or the students have approached the latter for supervision, discussed the project idea and have approached the farther with the idea discussed with that of the latter, presenting it as their project idea. Qualified supervisors cannot raise a conflict-of-interest over the allocation of a team of students.

Project Selection by Students based on Project Titles

This is another popular method of project allocation, which is adopted by many higher education institutions world-wide. A qualified supervisor exhibits the project title and a provisional abstract of the project. Students choose the projects based on the titles offered. If the total number of students who opt for the same

project is between 2 to 4, a team can be formed with the students. If the total number of students who opt for the same project exceeds 3 (in some case 4), the students for the project team shall be selected based on a first-come-first-serve basis or based on lottery or based on a knowledge assessment relevant to the project which shall be conducted by the qualified supervisor. The assessment results should be endorsed by the Head of the Department and the Project Coordinator.

Project Selection by Students based on Supervisors and/or Project Category

It is usually a challenging task to get a project assigned using the previous two methods in most cases where the available number of supervisors is small. It is obvious that no allocation system can guarantee that every student gets their first choice when the number of students are considerable high[5]. The students can provide a ranking of qualified supervisor based on their level of preference. The qualified supervisor shall provide a similar ranking of students based on their preference. The project coordinator shall correlate the rankings and prepare a list based on the choice. This is a time-consuming process, but the students and qualified supervisors can get a team based on their degree of preference. In this case, the project title and proposal shall be prepared after allocation of the project, after an extensive discussion of the students with the qualified supervisor. This shall consume a maximum turnaround period of 1 week.

Project Selection based on Lottery System

This system shall be implemented if there occurs a stagnation in the allocation of projects due to deadlock in opting project/ supervisor by students or selecting students by supervisors. In this case, the title of the projects is written in a lot and students are asked to choose based on a blind-fold method. An allotted lot can be used to a maximum of 3 iteration. If 3 students have opted for the same project title in this method, the lot shall be exempted from further draws.

Project Selection based on own proposal by the student

Students can propose their own project in this method. Students can contact qualified supervisors in the department and request them to be their

project supervisors. A qualified supervisor who has more than 2 batches shall not be permitted to supervise projects proposed by the students. A project proposal by the student shall be allowed to be carried out if and only if the proposal is accepted by a committee constituted with the Head of the Department as chairperson, Project Coordinator as convenor and one or two subject experts who are aligned with the domain of the student project proposal. Students undergoing internship in companies can opt for this allocation method. However, it is mandatory that the project should adhere to the academic standards and a report on the same need to be submitted in the FYP report format. It is advisable that the assigned qualified supervisor shall interact with the mentor from the company for smooth conduct of the reviews and for appropriate validation at stipulated checkpoints.

IMPORTANT NOTE: Students cannot submit proposal for projects done during their period of internship if the project is covered under ***Non-disclosure Agreement*** of the company.

Choosing the right project

Projects that are offered by the qualified supervisors may vary in terms of depth, breadth, and difficulty. It is obvious that some students tend to choose projects which have a low risk for failure whereas some others opt for harder and riskier projects that require a high degree of original input or technical problem-solving capability.

It is always important to balance ambition and realism while making a choice. For better projects students can go through digital repositories (ACM DL, Elsevier, SpringerLink, EBSCO, IEEE Xplore etc.).

NOTE: Final Year Project is not a Hobby Project.

Role of Supervisor

The function of a supervisor or an advisor is quite complex in the context of FYP since they take wide and varied roles[2]. Often, the term supervisor and advisor are interchangeable. The actual role of a faculty member in an

undergraduate FYP is advisory in nature. But they are termed supervisors due to the predominant usage of the term in the Indian Higher Education scenario. Being in advisory role is more of a sort of facilitative relationship. In general, a supervisor has three major tasks[3]:

(i)   To give advice
(ii)   To encourage and
(iii)   To warn

Though the supervisor is entitled to manage the work of the student, it is the students who hold the ownership of the FYP and must be able to defend every word in the presentation and in the report. Supervisors may suggest research lines, style, references, software tools etc.

Supervisors should ensure that the depth and width of the project is sufficient to be completed within the prescribed timeline. They shall provide constructive feedback and criticism wherever necessary. Further, it is recommended to examine the project topics/ abstract for the following:

(i)   Practicality, regarding the resources and time available
(ii)   Availability of reference materials
(iii)   Usefulness of information derived from the investigation/ developed work
(iv)   Anticipated difficulties in carrying out field work/ laboratory work (e.g., access to records or individuals, availability of equipment, admission to premises/sites etc.)

Meeting your supervisor

The project team must ensure that they meet the supervisor regularly. The team members are advised to maintain a logbook / notebook to which can be used to take notes on the interaction with your supervisor. If the team members are not able to locate their supervisor, a time of convenience for the meeting shall be decided based on a consensus between the team members and the supervisor, even beyond working hours.

Timeline

Phase – I

Process	*Tentative Date/ Maximum duration*
Allocation of Project	Week Zero
Zeroth Review	Week 2
First Review	Week 5
Second Review	Week 10
Third Review	Week 14
Submission of FYP report	Week 15
Viva-voce	After Week 15

Phase – II

Process	*Tentative Date/ Maximum duration*
First Review	Week 4
Second Review	Week 8
Third Review	Week 12
Submission of FYP report	Week 15
Viva-voce	After Week 15

Reviews

Reviews ensure that the project team adheres to the timeline specified by them. The deviation in the timeline specified shall be justified by the team and

shall be considered by the panel of examiners. Reviews are usually convened by the Project Coordinator. The panel of examiners comprises of

(i)   Project Supervisor
(ii)   Subject Expert (External Member)
(iii)   Head of the Department / Senior Faculty member nominated by the HOD

The reviews shall be scheduled on the weeks specified in the timeline. It is the duty of the Project Coordinator to ensure that the project reviews are inline with the academic schedule. In case of absence of a student during a review, if the absence is due to unavoidable circumstances/ internship, the student can request for a date of review to the coordinator, possibly within a week from the conduct of the review as per the academic schedule. If the student fails to attempt the same within a week, the student shall not be awarded any marks and the same shall be intimated to the student by the Project Coordinator through the Project Supervisor. Review meetings shall be conducted in online-mode if the panel of examiners agree, based on constraints related to distance or due to norms directed by the State/ Union Government or request by the student. In case of request by the student, the request need to be placed to the Project Coordinator through the Project Supervisor. The decision on the request is at the discretion of the panel of examiners.

Expectations

Phase – I

Zeroth Review

- Title
- Abstract
- Introduction
- Literature Survey
- Proposed System
- Module Split-up and Gantt Chart
- References

First Review

- Title
- Abstract
- Architectural Design for Proposed System (Phase 1)
- ER Diagram, DFD, Use case diagram (if required)
- Algorithms / Techniques used
- Expected outcomes
- References

Second Review

- Title
- Abstract
- Detailed Design (if any deviation)
- Contribution of the team
- Results obtained (intermediate)
- References

Third Review

- Title
- Abstract
- Overall Design (Phase 1)
- Experimental Results
- Performance Evaluation
- Comparison with Existing system
- References
- Draft of paper (advisable, not mandatory)

Phase – II

First Review

- Title
- Abstract

- Work completed for Phase 1
- Architectural Design for Proposed System (Phase 2)
- ER Diagram, DFD, Use case diagram (if necessary)
- Algorithms / Techniques used
- Expected outcomes
- References
- 40% implementation

Second Review

- Title
- Abstract
- Detailed Design (if any deviation)
- Contribution of the candidate
- Results obtained (intermediate)
- References
- 80% implementation
- Draft copy of a paper (advisable, not mandatory)

Third Review

- Title
- Abstract
- Overall Design (Phase 1 & 2)
- Integration & Experimental Results
- Performance Evaluation
- Comparison with Existing system
- References
- 100% implementation – Demo
- Copy of Published paper (advisable, not mandatory)

Rubrics for Assessment

A rubric is an explicit set of criteria used for assessing a particular type of work or performance and provides more details than a single grade or mark. Rubrics, therefore, will help you grade more objectively.

Need for Rubrics:

Used as a grading tool, it can address related to assessment, they reduce grading time; they increase objectivity and reduce subjectivity; they convey timely feedback to students, and they improve students' ability.

Example: Grading rubrics can be used to assess a range of activities in any subject area:

Assignments	Homework	Participation	Projects
Essay exams	In-class activities	Performances	Self- assessment
Group work	Lab Reports	In plant training	Case Study

Element and Development of Rubrics

Step 1: Task Description

When developing a rubric, begin with a task description which is the actual performance to be assessed.

Task example: Project Work

Step 2: Select appropriate criteria.

Criteria identify the attribute, feature or dimension which is to be measured and include a definition and example to clarify the meaning of each attribute being assessed. Each assignment or performance will determine the number of criteria to be scored. Criteria are derived from assignments, checklists, grading sheets, etc.,

Criteria example for a project work:

Problem Definition

Literature Review

Methodology – Experimental Set up / Design

Results and Discussions

Conclusion

Recommendation for further studies

Step 3: Identification of Performance Levels

Performance Levels determine the degree of performance which has been met and will provide consistent and objective assessment and better feedback to students. These levels tell students what they are expected to do. Performance Levels can be used without descriptors, but descriptors help in achieving objectivity. Words used for levels of performance could influence a student's interpretation of performance level (such as superior, moderate, poor or above or below average).

Performance Level Examples:

Excellent, Good, Fair, Poor

Master, Apprentice, Beginner

Exemplary, Accomplished, Developing, Beginning, Undeveloped

Complete, Incomplete

Yes, No

Step 4: Fixing appropriate Scores

Scores make up the system of numbers or values used to rate each criterion and often are combined with levels of performance. Begin by asking how many points are needed to adequately describe the range of performance you expect to see in students' work. Consider the range of possible performance level.

Score example:

1, 2, 3, 4, 5

2, 4, 6, 8

Step 5: Selecting appropriate Descriptors.

Descriptors are explicit descriptions of the performance and show how the score is derived and what is expected of the students. Descriptors spell out each level (gradation) of performance for each criterion and describe what performance at a particular level looks like. Descriptors describe how well students' work is distinguished from the work of earlier studies and will help you to distinguish

between each student's work. Finally, the same descriptors can be used for different criteria within one rubric. For example, the four level of performance: Excellent, Good, Fair and Poor can be used for the separate criteria of Accuracy, Organization, Punctuation & Grammar, and Spelling. Descriptors should be detailed enough to differentiate between the different level and increase the objectivity of the rater.

Descriptors example:

Criterion	Excellent	Good	Fair	Poor
Spelling	*No Spelling Errors*	*One or two spelling errors, but not of the type to make meaning unclear, and not of basic or common words.*	*A few minor spelling errors (more than two) but not enough to harm the writer's ethos seriously.*	*A major misspelling of important or common words, or a number of minor errors which interfere with easy reading or compression.*
	Descriptors are shown in italics			

Types of Rubrics

Holistic Rubrics:

A holistic rubric consists of a single scale with all criteria to be included in the evaluation being considered together (e.g., clarity, organization, and mechanics). With a holistic rubric the rater assigns a single score (usually on a 1 to 4 or 1 to 6 point scale) based on an overall judgment of the student's work. The rater matches an entire piece of student work to a single description on the scale.

Analytic Rubrics:

An analytic rubric resembles a grid with the criteria for a student product listed in the leftmost column and with levels of performance listed across the top row often using numbers and/or descriptive tags. The cells within the center of the rubric may be left blank or may contain descriptions of what the specified criteria look like for each level of performance. When scoring with an analytic rubric each of the criteria is scored individually.

Project Rubric : Criteria – Group

Group			
Time - Limit			
Excellent (3)	**Good (2)**	**Satisfactory (1)**	**Unsatisfactory (0)**
Presentation is 25-30 minutes long.	Presentation is more than 20 minutes and less than 25 minutes.	Presentation is less than 20 minutes long.	Presentation is less than 15 minutes OR more than 35 minutes.
Member Participation			
Excellent (2)	**Good (1.5)**	**Satisfactory (1)**	**Unsatisfactory (0)**
Listens to the efforts of others in the group. Respond openly and effectively to feedback from the audience.	Usually listen and support the efforts of others in the group. Listen with interest to feedback from the audience.	Often listens to share with and supports the efforts of others in the group but sometimes is not good team member.	Rarely listen and support the efforts of others in the group. Often is not a good team member.
Continuity of Participation			
Excellent (2)	**Good (1.5)**	**Satisfactory (1)**	**Unsatisfactory (0)**
Speaks clearly, distinctly and stays on topic all (100%) of the time.	Speaks clearly, distinctly and stays on topic all (99% - 90%) of the time.	Speaks clearly, distinctly most and stays on topic all (89% -75%) of the time.	Often mumbles or cannot be understood and it was hard to tell what the topic was.
Voice, Expression and Presentation			
Excellent Good (3)	**Good (2)**	**Satisfactory (1)**	**Unsatisfactory (0)**
Uses vocabulary appropriate for the audience. Extends audience vocabulary by defining words that might be new to most of the audience. Always (99-100% of time) speaks in complete sentences. The volume is loud enough to be heard by all audience members throughout the presentation.	Uses vocabulary appropriate for the audience. Includes 1-2 words that might be new to most of the audience but does not define them. Mostly (80-98%) speak in complete sentences. The volume is loud enough to be heard by all audience members at least 90% of the time.	Uses vocabulary appropriate for the audience. Does not include any vocabulary that might be new to the audience. Sometimes (70-80%) speak in complete sentences. The volume is loud enough to be heard by all audience members at least 80% of the time.	Uses several (5 or more) words or phrases that are not understood by the audience. Rarely speaks in complete sentences. The volume is often too soft to be heard by all audience members.

Project Rubric : Criteria – Graphics and Visual Presentation

Graphics and Visual Presentation			
Use of Visual			
Excellent (5)	**Good (3)**	**Satisfactory (1)**	**Unsatisfactory (0)**
Students use several effective strategies that show considerable work/creativity and which make the presentation better.	Students use a few effective strategies that shows considerable work/creativity and which make the presentation better.	Students use very few strategies to vary the presentation style.	The student straight from their notes without any activities, props, or other visual aids to enhance their presentation style.
Adequate number of Visual / Quality of Design			
Excellent (5)	**Good (3)**	**Satisfactory (1)**	**Unsatisfactory (0)**
Students use adequate number of slides and design (25 – 30 slides) and the Design is excellent	Students use few number of slides and design (15-20 slides) and the Design is good	Students use very few number of slides and design (10-15 slides) and the Design is acceptable	Students use not adequate number of slides and design (5 to 10 slides) and the Design is not acceptable

Questions Oral			
Excellent (41-50)	**Very Good (31-40)**	**Good (21-30))**	**Satisfactory (0-20)**
Students has excellent knowledge about the project and answered all the questions.	Students has very good knowledge about the project and answered many of the questions.	Students has good knowledge about the project and answered some of the questions.	Students has some knowledge about the project and answered very few questions.

Project Rubric: Criteria - Content

Identifies and Summarizes the Problem Statement or Objective

Excellent (10)	Very Good (7.5)	Good (5)	Satisfactory (2.5)
Use prior knowledge to identify a problem / question to be studied and has a clearly stated objective. Breaks problem / question down into a series of steps that will lead to the stated objective to be addressed and identifies complexities in the problem / question.	Use prior knowledge to identify a problem / question to be studied and has a clearly stated objective. Breaks problem / question down into a series of smaller steps that will lead to the stated objective to be addressed and has not identified complexities in the problem / question.	Has identified an appropriate topic to be studied, but lacks a clearly stated objective. Organized as a list of information about the topic rather than pointing towards an objective.	Problem / Question identified is too broad to provide a clear objective.

Literature Review

Excellent (10)	Very Good (7.5)	Good (5)	Satisfactory (2.5)
Provides a detailed and relevant literature review. Excellent variety of sources. There is clear correlation among the information and to the stated objectives under consideration. All information is exactly correct.	Use appropriate sources to discover what is already known about the problem / question but does not make a clear correlation between this information and the stated objectives to be investigated. Adequate variety of sources. Most information is exactly correct.	Use some appropriate sources to identify what is already known about the problem / question, but discussion omits important aspects of the problem / question identified.	Review of literature is seriously incomplete, inadequate variety of sources. Major issues are ignored or errors / inconsistencies.

Project Schedule (Gantt Chart)

Excellent (10)	Very Good (7.5)	Good (5)	Satisfactory (2.5)
Students has excellent knowledge to draw Gantt Chart and Project Schedule. All task names and durations are shown	Students has very good knowledge to draw Gantt Chart and Project Schedule. One or two labels are missing.	Students has good knowledge to draw Gantt Chart and Project Schedule. Three to Four labels are missing.	Students has some knowledge to draw Gantt Chart and Project Schedule. Incomplete or labels are missing.

Progress made / Plan / Demonstration

Plan

Excellent (10)	Very Good (7.5)	Good (5)	Satisfactory (2.5)
Gave thoughtful feedback to the reviewers and responded to the reviewer's feedback by making appropriate changes in the work.	Gave and responded to reviewer's feedback	Gave some feedback to reviewer's	Did not give feedback to reviewer's

Concept / Design

Excellent (10)	Very Good (7.5)	Good (5)	Satisfactory (2.5)
Designs sound and focused methodology to the study and using appropriate safety / ethical measures. Identifies relevant constraints. Data is collected carefully and with appropriate precision and adequate mathematical analysis. Considers possible criticisms of the action plan and address them.	Designs sound and focused methodology to the study and using appropriate safety / ethical measures. Identifies relevant constraints. Data is collected carefully and with appropriate precision and adequate mathematical analysis. Consideration of the consequences and limits of the method to be employed are incomplete.	Action is designed with appropriate methodology and safety / ethical measures, but the plan contains some obvious and remediable flaws. Data collection is insufficient for mathematical analysis or there is no consideration of a practical problem in implementation.	Action plan provided will not meet the objectives, does not address practical issues in implementation or use other inappropriate methodology. Does not recognize the limits or implications of the method to be employed.

Results and Discussion

Excellent (10)	Very Good (7.5)	Good (5)	Satisfactory (2.5)
Expected results achieved by students.	Partial results achieved by students	Require some extra analysis and results	Require more analysis and results

Analyses data in an appropriate manner/ Outcome

Excellent (10)	Very Good (7.5)	Good (5)	Satisfactory (2.5)
Analyses data Via graphs, statistics and qualitative analysis as appropriate. Identifies assumptions. Consider alternative interpretations of the data and if possible, carry out additional investigations supplemental analyses that will allow distinction between these interpretations. The outcome is 100 % achieved.	Analyses data Via graphs, statistics and qualitative analysis as appropriate. Linkage between analyses and the project directives is underdeveloped. The Outcome is 75% achieved	Analysis of data is incomplete / inappropriate. A minimal effort is made to link between analyses and the project objectives. Does not identify assumptions made in the analysis or alternative interpretations.	Analysis of data is incomplete / inappropriate. Does not identify assumptions made in the analysis or alternative interpretations. The outcome is not achieved.

Reflects on own work to assure that conclusions are justified			
Excellent (5)	**Good (3)**	**Satisfactory (1)**	**Unsatisfactory (0)**
Prepares an error analysis as appropriate. Analyze the process of intervention and or data gathering. Explains why alternative approaches to the intervention or alternative interpretations of the data were rejected.	Prepares an error analysis as appropriate. Analyze the process of intervention and or data gathering.	Prepares an error analysis as appropriate. But not considered possible criticisms of their work.	Lacks error analysis. Has not considered alternative approaches to the interventions or alternative conclusions. Has not considered possible criticisms of the methodology used.
Scope for Further studies			
Excellent (5)	**Good (3)**	**Satisfactory (1)**	**Unsatisfactory (0)**
Identifies questions remaining unanswered. Proposes next logical steps for continued inquiry into this system. Identifies how the conclusions might apply to new or different situations.	Identifies questions remaining unanswered. Proposes next logical steps for continued inquiry into this system.	Has proposed some logical steps for further investigation, but this is clearly incomplete.	Has not considered implications of the current work for future investigations.

End Semester Examination Rubrics

Project Rubric : Criteria – Group

Group			
Time - Limit			
Excellent (5)	**Good (3)**	**Satisfactory(1)**	**Unsatisfactory(0)**
Presentation is 25-30 minutes long.	Presentation is more than 20 minutes and less than 25 minutes.	Presentation is less than 20 minutes long.	Presentation is less than 15 minutes OR more than 35 minutes.
Member Participation			
Excellent (5)	**Good (3)**	**Satisfactory(1)**	**Unsatisfactory(0)**
Listens to the efforts of others in the group. Respond openly and effectively to feedback from the audience.	Usually listen and support the efforts of others in the group. Listen with interest to feedback from the audience.	Often listens to share with and supports the efforts of others in the group but sometimes is not good team member.	Rarely listen and support the efforts of others in the group. Often is not a good team member.
Continuity of Participation			
Excellent (5)	**Good (3)**	**Satisfactory(1)**	**Unsatisfactory(0)**
Speaks clearly, distinctly and stays on topic all (100%) of the time.	Speaks clearly, distinctly and stays on topic all (99% - 90%) of the time.	Speaks clearly, distinctly most and stays on topic all (89% -75%) of the time.	Often mumbles or cannot be understood and it was hard to tell what the topic was.
Voice, Expression and Presentation			
Excellent (5)	**Good (3)**	**Satisfactory(1)**	**Unsatisfactory(0)**
Uses vocabulary appropriate for the audience. Extends audience vocabulary by defining words that might be new to most of the audience. Always (99-100% of time) speaks in complete sentences. Volume is loud enough to be heard by all audience members throughout the presentation.	Uses vocabulary appropriate for the audience. Includes 1-2 words that might be new to most of the audience, but does not define them. Mostly (80-98%) speaks in complete sentences. Volume is loud enough to be heard by all audience members at least 90% of the time.	Uses vocabulary appropriate for the audience. Does not include any vocabulary that might be new to the audience. Sometimes (70-80%) speaks in complete sentences. Volume is loud enough to be heard by all audience members at least 80% of the time.	Uses several (5 or more) words or phrases that are not understood by the audience. Rarely speaks in complete sentences. Volume often too soft to be heard by all audience members.

Questions Oral			
Excellent (16-20)	**Very Good (11-15)**	**Good (6-10))**	**Satisfactory (0-5)**
Students has excellent knowledge about the project and answered all the questions.	Students has very good knowledge about the project and answered many of the questions.	Students has good knowledge about the project and answered some of the questions.	Students has some knowledge about the project and answered very few questions.

Format

	Excellent (3)	Good (2)	Fair(1)	Poor(0)
Spelling, grammar and proper sentence	No Spelling Errors, Grammars and has proper sentence formation	One or two spelling errors, but not of the type to make meaning unclear, and not of basic or common words. Some grammatical errors and some care needed for sentence formation	A few minor spelling errors (more than two) but not enough to harm the writer's ethos seriously. Many grammatical errors and more care needed for sentence formation	A major misspelling of important or common words, or a number of minor errors which interfere with easy reading or compression. Many grammatical errors and sentence formation is poor.
Figures, equation and Diagrams	Figures, equation and Diagrams are drawn as per the original	Figures, equation and Diagrams are drawn as per the original and needs some improvement	Figures, equation and Diagrams are drawn as per the original and needs more improvement	Figures, equation and Diagrams are copied and pasted
	Excellent (2)	**Good (1.5)**	**Fair(1)**	**Poor(0)**
Quality of Graphics	Quality of Graphics is excellent	Quality of Graphics is good and needs some improvement	Quality of Graphics is fair and needs more improvement	Quality of Graphics is Poor and needs more improvement
Adherence to required format	Formatting is done as per the guidelines	Formatting needs some improvement as per the guidelines	Formatting is needs more improvement as per the guidelines	Formatting is not done as per the guidelines

Report Content

Criterion	Excellent (5)	Good (3)	Fair (1)	Poor (0)
Title, Certificate, Declaration and Acknowledgement Pages	Title, Certificate, Declaration and Acknowledgement Pages as per guidelines	Title, Certificate, Declaration and Acknowledgement Pages needs improvement as per guidelines	Title, Certificate, Declaration and Acknowledgement Pages needs more improvement as per guidelines	Title, Certificate, Declaration and Acknowledgement Pages is not as per guidelines
Abstract Problem statement, Objective, Methodology Experiment set up,	Abstract Problem statement, Objective, Methodology Experiment set up, Results and Discussion were	Abstract Problem statement, Objective, Methodology Experiment set up, Results and some discussion is	Abstract Problem statement, Objective, Methodology Experiment set up, Results and more discussion is	Abstract Problem statement, Objective, Methodology Experiment set up, Results and Discussion were not

Results and Discussion	discussed and highlighted	needed	needed	discussed and highlighted
Table of Content, List of Tables & Figures	Table of Content, List of Tables & Figures as per guidelines	Table of Content, List of Tables & Figures needs some improvement as per guidelines	Table of Content, List of Tables & Figures needs more improvement as per guidelines	Table of Content, List of Tables & Figures is not as per guidelines
Criterion	**Excellent (10)**	**Very Good (7.5)**	**Good (5)**	**Satisfactory (2.5)**
Introduction Problem Statement, Objectives	Introduction Problem Statement, Objectives is stated clearly	Introduction Problem Statement, Objectives needs some improvement	Introduction Problem Statement, Objectives needs more improvement	Introduction Problem Statement, Objectives is not stated clearly
Literature Review	Literature Review is sufficient	Literature Review needs some improvement	Literature Review needs more improvement	Literature Review is not sufficient
Criterion	**Excellent (30)**	**Good (20)**	**Fair (10)**	**Satisfactory (5)**
Methodology Data Collection, Design / Experimental Verification, Methods	Methodology Data Collection, Design / Experimental Verification, Methods explained clearly	Methodology Data Collection, Design / Experimental Verification, Methods needs some improvement	Methodology Data Collection, Design / Experimental Verification, Methods needs more improvement	Methodology Data Collection, Design / Experimental Verification, Methods is not explained clearly
Criterion	**Excellent (10)**	**Very Good (7.5)**	**Good (5)**	**Satisfactory (2.5)**
Results and Discussion	Results and Discussion is explained clearly	Results and Discussion needs some improvement	Results and Discussion needs more improvement	Results and Discussion is not explained clearly
Conclusion	Conclusion explained clearly	Conclusion explained clearly and needs improvement	Conclusion explained clearly and needs more improvement	Conclusion is not explained clearly
Criterion	**Excellent (5)**	**Good (3)**	**Fair (1)**	**Poor (0)**
Recommendation	Recommendation is given	Recommendation is given with minor changes	Recommendation is given with major changes	Recommendation is not given

Project Evaluation / Demo			
Excellent (46-60)	**Very Good (31-45)**	**Good (16-30)**	**Satisfactory (0-15)**
Students has excellent knowledge about the project and answered all the questions during demonstration.	Students has very good knowledge about the project and answered many of the questions during demonstration.	Students has good knowledge about the project and answered some of the questions during demonstration.	Students has some knowledge about the project and answered very few questions during demonstration.

Project Evaluation Sheet for End Semester Examination – Project Work

S.No	Reg. No.	Name	End Semester Examination (40Marks)										
			Internal					External					(Internal Total + External Total) / 2
			Project Report Evaluation (A)	Presentation (B)	Viva voce (C)	Project Evaluation n/Demo (D)	Internal Total	Project Report Evaluation (E)	Presentation (F)	Viva voce (G)	Project Evaluation n/Demo (H)	External Total	
			100	20	20	60	100	100	20	20	60	100	100
1.													
2.													
3.													

Internal Total = (A+B+C+D)/2   **External Total = (E+F+G+H)/2**

CIA and End semester Examination – Conversion of 100 Marks

S.No	Roll No	Name	Continuous Internal Assessment (60 Marks)									End Semester Examination (40Marks)							
			Review 1 (20 Marks)			Review 2 (20 Marks)			Review 3 (20 Marks)			Internal				External			
			Member 1	Member 2	Supervisor	Member 1	Member 2	Supervisor	Member 1	Member 2	Supervisor	Project Report Evaluation	Presentation	Viva voce	Project Evaluation n/Demo	Project Report Evaluation	Presentation	Viva voce	Project Evaluation /Demo
			5	5	10	5	5	10	5	5	10	10	2	2	6	10	2	2	6
1.																			
2.																			
3.																			

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