Government of Karnataka
Department of Technical Education
Bengaluru

	**Course Title: Project Work- II**		
	Scheme (L:T:P) : **0:2:4**	Total Contact Hours: **78**	Course Code: **15CS67T**
	Type of Course: **Lectures, Self Study & Student Activity**	Credit **:03**	Core/ Elective: **Core**
CIE- 25 Marks			SEE- 50 Marks

Pre requisites

Application learned concepts form the previous semester studied courses.

Course Objectives

1. Learn the objective of this project is to provide opportunity for the students to implement their skills acquired in the previous semesters to practical problems/problems faced by industry/development of new facilities
2. Make the students come up with innovative/ new ideas in his area of interest.
3. Identify, analyze and develop opportunities as well as to solve broadly defined Computer Science & Engineering problems
4. Enhance students' appreciation of the values of social responsibility, legal and ethical principles, through the analysis and discussion of relevant articles and real time projects

Course outcome

On successful completion of the course, the students will be able to:

Course Outcome		CL	Linked PO	Allotted hours
CO1	Get an idea and confidence in designing, analysing and executing the project.	Analysis / creation	1 to 10	**6hrs/Week**
CO2	Apply the knowledge of latest trends in software development engineering and relate their ideas while executing the project	Analysis / creation	1 to 10	
CO3	Have complete understanding of Executing the project	Analysis / creation	1 to 10	
CO4	Prepare documents in team and enhance his written and oral communication presentations.	Analysis / creation	1 to 10	
CO5	Develop individual confidence to handle various engineering assignments and expose themselves to acquire life skills to meet societal challenges	Analysis / creation	1 to 10	
			TOTAL	**78 Hours**

Mapping Course Outcomes With Program Outcomes

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments a practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communicati on	Life long learning
PROJECT WORK	3	3	3	3	3	3	3	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.
Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.
If ≥40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3
If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2
If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1
If < 5% of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

PROJECT WORK: 78 HRS

INTRODUCTION

The objective of the project work is to enable the students in convenient groups of minimum of 3-4 members on a project involving theoretical and experimental studies related to the branch of study. Every project work shall have a guide who is the member of the faculty of the institution. Six periods per week shall be allotted in the time table and this time shall be utilized by the students to receive the directions from the guide, on library reading, laboratory work, computer analysis or field work as assigned by the guide and also to present in periodical seminars on the progress made in the project.

ROAD MAP FOR THE PROJECT

1. Carry out a session or a seminar from the ISTE Student Chapter coordinator / Programme coordinator with the help of Innovation club / I I I cell for directing the students to identify project areas in the field of their interested including interdisciplinary areas.
2. Power point presentation in seminar should include detail description of project areas related to program, Project report formats, developing personnel writing skills.
3. The Students/Departments may at liberty to form the batch not less than 3 and maximum 4 and get registered with project coordinator / HOD at the end of V semester.
4. Students should take the approval from the Project committee/ Head of department for doing project.
5. After approval the batch of students will be published in department notice board along with guide in the end of 5^{th} semester.
6. All students should finalize their Project immediately before commencement of SEE of 5^{th} semester.
7. The types of project may include:
    - Preparation of a feasibility report
    - Design and development system
    - The improvement of existing system
    - Creation of New facilities

8. The project should be challenging but manageable within the resources and time

available.

9. Students should undergo reviews for one times in 5th semester and at least 4 times in 6th semester during the internal assessment. Time table for IA should include project review. The guide should monitor the progress of Project work periodically and it should be finally evaluated for 25 marks at the end of 5th semester and for 25 marks at the end of 6th semester.
10. The IA marks will be evaluated based on oral presentation and assessment by the internal guide by adopting Rubrics being developed by Project committee.
11. Real time problems, Industry related problems, should be chosen and it is a Responsibilities of the project committee / Programme coordinator/ Innovation club / I.I.T. cell to choose the appropriate project and to accept the Project Proposal
12. **Identification of Topic:** The selection of topic is of crucial importance. It should be field of interest. It is advisable to choose the project can be completed on time and within the budget and resources. The topic should be clear, directional, focussed and feasible.
13. An outline of project proposal submitted & synopsis from student will initiate a dialogue between Student and Project coordinator who will then help you to work on the chosen topic and report.

Thrust areas identified for Project work

Each student may be assigned any one of the following types of project/thesis work:

According to the local needs, the following major projects are suggested:

Automation of booking in Hotel booking, Train / Bus reservation, Time table schedule, Cloud based projects, Robotic programming, Mobile Applications or any other software automation system that is need of the hour. Hardware projects related to IOT, robotics programming involving Python, Raspberry PI etc., may also be encouraged.

Course Assessment and Evaluation Scheme for Project work

<table>
<tr><th></th><th colspan="2">What</th><th>To whom</th><th>When/Where (Frequency in the course)</th><th>Max Marks</th><th>Evidence Collected</th><th>Course out comes</th></tr>
<tr><td rowspan="3">Direct Assessment met</td><td rowspan="2">CIE</td><td rowspan="2">IA</td><td rowspan="3">Students</td><td>CIE
(At the end of 6th semester)</td><td>25</td><td>1. Project Synopsis.
2. Plan & Schedule</td><td>CO1, CO2, CO3,CO4,CO5</td></tr>
<tr><td>SEE
End of the course</td><td>50</td><td>1. Project Report.
2. Presentation hand outs.
3. Project Model</td><td>CO1, CO2, CO3,CO4,CO5</td></tr>
<tr><td>SEE</td><td>End Exam</td><td>End of the course</td><td colspan="3">Project report and project model / Study report</td></tr>
<tr><td>Assess ct</td><td colspan="2">Student Feedback on course</td><td>Students</td><td>Middle of the course</td><td colspan="2">Feedback forms</td><td>CO1Delivery of course</td></tr>
</table>

	End of Course Survey		End of the course	Questionnaires	CO1 to CO5 Effectiveness of Delivery of instructions & Assessment Methods

*__CIE__ – Continuous Internal Evaluation *__SEE__ – Semester End Examination

Project report

The Project Report should consist of following items.

1. The project report must contain the following:

- Introduction
- Objectives
- Tools/Environment Used
- Analysis Document (This should include SRS in proper structure based on Software Engineering concepts, E-R diagrams/Class diagrams/any related diagrams (if the former are not applicable), Data flow diagrams/other similar diagrams (if the former is not applicable), Data dictionary)
- Design Document (Modularization details, Data integrity & constraints including database design, Procedural design, User interface design)
- Program code (Complete code (well indented)/Detailed specification instead of code*, Comments & Description. The program code should always be developed in such a way that it includes complete error handling, passing of parameters as required, placement of procedure/function statements as needed.)
- Testing (Test case designs are to be included separately for Unit testing, Integration testing, System testing; Reports of the outcome of Unit testing, Integration testing, System testing are to be included separately. Also, details of debugging and code improvement are to be included.)
- Input and Output Screens
- Implementation of Security for the Software developed (In case, you have set up a User Name and Password for your software, you should ensure the security of User Name and Password during transmission to server)
- Limitations of the Project
- Future Application of the Project
- References and Bibliography

2. Project reports should be typed neatly in Times New Roman letters with font size 14 for titles and 12 for text on both sides of the paper with 1.5 line spacing on a A4 size paper (210 x 297 mm). The margins should be: Left - 1.5", Right - 1", Top and Bottom - 0.75".

3. The total number of reports (**Soft bound**) to be prepared are

- One copy to the department /library
- One copy to the concerned guide(s)
- One copy to the candidate.

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

4. Every copy of the report must contain

- Inner title page (White)
- Outer title page with a plastic cover
- Candidate declaration and Certificate in the format enclosed both from the institution and the organization where the project is carried out.
- An abstract not exceeding 100 words, indicating salient features of the work.

5. The organization of the report should be as follows

1. Inner title page 2. Table of Contents 3. Candidate Declaration……i 4. Project guide Certificate…….ii 5. Certificate……...iii 6. Acknowledgments……..iv 7. List of table & figures (optional)……v 8. Abstract……...vi 9. Chapter 1……..1 to n ….. ….. References / Bibliography	Usually numbered in roman

Chapters(to be numbered in Arabic) containing Introduction-, which usually specifies the scope of work and its importance and relation to previous work and the present developments, 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 2, sections as 2.1, 2.2 etc., and subsections as 2.2.3, 2.5.1 etc.

The **chapter must be left or right justified** (**font size** 16). Followed by the **title of chapter centred** (**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.

The figures and tables must be numbered chapter wise

The last chapter should contain the summary of the work carried, contributions if any, their utility along with the scope for further work.

Reference or Bibliography: The references should be **numbered serially** in the order of their occurrence in the text and their numbers should be indicated within square

brackets for e.g. [3]. The section on references should list them in serial order in the following format.

1. For textbooks –
2. For papers – Y
3. Only SI units are to be used in the report. Important equations must be numbered in decimal form for e.g.

- **V = IZ** ..... **(3.2)**

All equation numbers should be right justified.

CIE ASSESSMENT FOR FINAL REVIEW (VI Semester)

SN	Particulars	Marks
1	Log of Activity (Plan & Schedule)	05
2	Report	10
3	Presentation	10
	Total	25

Project Review Committee should consists of

1. Head of the Department
2. Two Staff members of the Department
3. Course Co-ordinator
4. Representative from Innovation Club of the Polytechnics/Engineering faculty/ Industry Institute Interaction Cell.

All students of 6th Semester should compulsorily attend each Review Proceedings of the meeting should be maintained in the department and shown during I.A. Verification.

STAGES OF PROJECT REVIEW IN 6TH SEMESTER

Review	Activity
I Review	Presentation on (a)data collected, (b) processing of Data (c) Experimental work conducted , (d) Finalization of contents of the project
II Review	Presentation on (a) Results,(b) Discussion of Results (c) Conclusions Submission of Draft copy of Project Report
III Review	Final Project Presentation and submission of Project Report

SCHEME OF EVALUATION (SEE)

SN	Particulars	**Marks**
1	Presentation	20
2	Demonstration	20
3	Viva-Voce	10
	TOTAL	**50**

MODEL OF RUBRICS FOR ASSESSING REVIEWS OF PROJECT FOR CIE

Student name	Reg. no	Dimension	Scale					Students Score				
			Unsatisfactory	Developing	**satisfactory**	Good	Exemplary	1	2	3	4	5
		Collection of data	Does not collect any information relating to the topic	Collects very limited information; some relate to the topic	Collect much information; but very limited relate to the topic	Collects some basic information; most refer to the topic	Collects a great deal of information; all refer to the topic					
		Fulfil team's roles & duties	Does not perform any duties assigned to the team role	Performs very little duties but unreliable.	Performs very little duties	Performs nearly all duties	Performs all duties of assigned team roles					
		Shares work equally	Always relies on others to do the work	Rarely does the assigned work; often needs reminding	Usually does the assigned work; rarely needs reminding	Normally does the assigned work	Always does the assigned work without having to be reminded.					
		Listen to other Team mates	Is always talking; never allows anyone else to speak	Usually does most of the talking; rarely allows others to speak	Talks good; but never show interest in listening others	Listens, but sometimes talk too much	Listens and speaks a fair amount					
							Grand Average/Total					

APPENDIX 1 (Cover page)

(A typical Specimen of Cover Page)<Font Style Times New Roman – Bold>

TITLE OF PROJECT REPORT

<Font Size 18><1.5 line spacing>

A PROJECT REPORT

<Font Size 14>

Submitted by

<Font Size 14><Italic>

NAME OF THE CANDIDATE(S)

<Font Size 16>

in partial fulfillment for the award of the diploma

of

<Font Size 14><1.5 line spacing><Italic>

DIPLOMA IN PROGRAMME

<Font Size 16>

IN

DEPARTMENT OF ENGINEERING

<Font Size 14>

LOGO

NAME OF THE COLLEGE

<Font Size 14>

DEPARTMENT OF TECHNICAL EDUCATION

BENGALURU-560001

<Font Size 16><1.5 line spacing>

Year of submission: (MONTH & YEAR)

<Font Size 14>

APPENDIX 2 (Title page)

(A typical Specimen of Title Page) <Font Style Times New Roman – Bold>

A Project Report
on

<TITLE OF THE PROJECT WORK>

Submitted for partial fulfilment of the requirements for the award of the
of

DIPLOMA IN COMPUTER SCIENCE AND ENGINEERING

BY
BATCH
<Mr. / Ms. Name of the Student (Reg No.)>
<Mr. / Ms. Name of the Student (Reg No.)>
<Mr. / Ms. Name of the Student (Reg No.)>
<Mr. / Ms. Name of the Student (Reg No.)>
<Mr. / Ms. Name of the Student (Reg No.)>

Under the guidance of

<Name of the Staff>
Lecturer
Department of

Department of
<<NAME OF INSTITUTE>>
<<ADDRESS OF INSTITUTE>>

APPENDIX 3 (Candidate declaration)

CANDIDATE'S DECLARATION

I, _____ the student of Diploma in Computer Science and Engineering Department bearing Register Number _____of _____ Polytechnic, hereby declare that, I owe full responsibility for the information, results and conclusions provided in this project work titled "_____" submitted to **Board of Technical Examinations, Government of Karnataka** for the award of ***Diploma in Computer Science and Engineering***. To the best of my knowledge, this project work has not been submitted in part or full elsewhere in any other institution/organization for the award of any certificate/diploma/degree. I have completely taken care in acknowledging the contribution of others in this academic work. I further declare that in case of any violation of intellectual property rights and particulars declared, found at any stage, I, as the candidate will be solely responsible for the same.

Date:

Place: **Signature of candidate**

Name: _____

Reg No: _____

APPENDIX 4 (Project Guide Certificate)

(A typical specimen of Bonafide Certificate)
<Font Style Times New Roman>

Name of the institute
<Font Style Times New Roman – size -18>

Department
<Font Style Times New Roman – size -16>

BONAFIDE CERTIFICATE

<Font Style Times New Roman – size -16>

<Font Style Times New Roman – size -14>

Certified that this project report **"_____TITLE OF THE PROJECT _____"**is the bonafide work of "**_____NAME OF THE CANDIDATE(S)_____" bearing Register Nos "_____"** of this institution who carried out the project work under my supervision.

<<Signature of the Project Guide>>

SIGNATURE

<<Name>>

Guide

<<Department>>
<<Full address of the Dept & College >>

<<Signature of the Head of Department>>

SIGNATURE

<<Name>>

Head of Department
<<Academic Designation>>
<<Full address of the Dept & College

APPENDIX 5 (Certificate)

DEPARTMENT OF TECHNICAL EDUCATION

NAME OF THE INSTITUTION

Address with pin code

Department of _____

CERTIFICATE

Certified that this project report entitled **"**_____**"**which is being submitted by Mr./Ms._____, Reg. No_____, a bonafide student of _____in partial fulfilment for the award of **Diploma in _____Engineering** during the year _____is record of students own work carried out under my/our guidance. It is certified that all corrections/suggestions indicated for internal Assessment have been incorporated in the Report and one copy of it being deposited in the polytechnic library.

The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said diploma.

It is further understood that by this certificate the undersigned do not endorse or approve any statement made, opinion expressed or conclusion drawn there in but approve the project only for the purpose for which it is submitted.

(Name) Guide(s)	(Name) Head of Department	(Name) Principal

Name and signature Examiner

1 _____

2 _____

APPENDIX-6 (PROJECT-TIME LINE)

SL.No	Task	Responsibility	V Semester				VI Semester						
			1 to 2	3	4 to 6	7 to 14	1	2 to 3	4	5 to 10	11 to 12	13	14
1	Seminar regarding Project work	HOD / coordinator											
2	Batch formation &Guide allocation	HOD											
3	Identification of project	Students / Guide											
4	Project synopsis Submission	Students											
5	Finalizations of Project	Students / Guide											
6	Literature survey	Students / Guide											
7	Identification of facility to do PW	Guide											
8	Study & design of system and Phase 1 presentation	Students / Guide											
9	Results discussion / performance testing	Students											
10	Review of Project work by guide	Students											
11	Project report submission and Phase 2 presentation	Students / Guide											