

Detailed Syllabus
Lecture-wise Breakup

Course Code	17M17CS121	Semester Odd (specify Odd/Even)	Semester 3rd Session2024 -2025 Month from July to Dec
Course Name	Project Based Learning-II		
Credits	4	Contact Hours	0-0-8
Faculty (Names)	Coordinator(s)	Dr. Kashav Ajmera	
	Teacher(s) (Alphabetically)	Dr. Kashav Ajmera, Dr. Shikha Jain	
COURSE OUTCOMES At the completion of the course, Students will be able to			COGNITIVE LEVELS
C210.1	Identify live problems that would be solved through automated software development process.		Apply Level (C3)
C210.2	Confront the issues related to development of project which includes team work, test driven design, data collections, implementations etc.		Apply Level (C3)
C210.3	Develop oral communication skill and prepare a technical report		Apply Level (C3)
C210.4	Critically review the projects and can skilfully map each stage in software development cycle.		Apply Level (C3)

SN	Activity	Details	No. of labs
1	Group Allocation and Literature Survey	a) 3 – 6 students in a batch and a maximum of 5 – 6 batches b) average CGPA of the batches should be roughly same	2

2	Literature Survey&Problem Identification	a) Automation Problems (live problem relevant to the Indian society) b) Economic considerations c) Aim d) Scope e) Open Source Automation Building & Testing Tools: E.g.: JUnit is an open source unit testing tool for Java programming language	2
3	Reviews-1		2
4	Problem Formulation and Gantt Chart	a) Design and Implementation Constraints b) Assumptions and Dependencies c) Functional Requirements d) <u>Non-functional Requirements</u>	2
5	Lab Class	Implementation, Testing and Analysis	2
6	Lab Class	Implementation, Testing and Analysis	2
7	Mid Term Viva	a) Presentation by Students b) Viva	2
8	Lab Class	Implementation, Testing and Analysis	2
9	Reviews -4		2
10	Lab Class	Implementation, Testing and Analysis	2
11	Reviews -5		2
12	Lab Class	Testing, Analysis, and Report Preparation	2
13	Reviews -6		2
14	End Term	a) Presentation by Students b) Viva c) Report Submission d) Self-Assessment Report Submission e) Peer Evaluation	2

Total number of labs	28
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Evaluation Scheme:

Parameters	Marks
6-Reviews (8 Marks each)	48
Report	10
Presentation	10
Viva	16
Peer Assessment	8
Self-Assessment	8

Total Marks	100
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Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc.)	
Text Book	
1.	...
References	
1.	...

CO-PO Mapping:

COs	PO1	PO2	PO3	PSO1	PSO2
C210.1	2 Study literature to identify live problem to pursue	2 Based on study list out functional and non-functional requirements, and include in technical reports	1 Study existing literature and gain expertise to address the identified problem	2 Develop research aptitude to address the identified problem	2 Learn art of picking prominent societal problems which needs to be addressed urgently
C210.2	3 Investigate approaches to solve project problems and make effective plan for project development	2 Prepare technical reports for stage wise project development	3 Use team's diverse knowledge to solve project problems	3 Work on identified issues in project development using existing technologies and resources	2 Use ethical principles for project development
C210.3	0	3 Learn ways to write a technical documents and skills to present work	2 Conduct team meetings and identify skillset for the project development	0	2 Learn ways to cite other's work in technical report
C210.4	2 Identify existing solutions to project problem and inspect scope of improvements in them	1 Learn ways to comprehend existing SDF models	2 Review the existing tools and technology and identify suitable one	2 Visualize and analyze the existing solutions to given problem	2 Critically review existing literature and identify art of claiming work for contribution
Avg.	1.7	2	2	1.7	2

ORDINANCE

3.3A Project Based Learning

(a) In PBL (Project Based Learning) Courses, students will learn a new subject through execution of project(s).

(b) Students will be divided into batches ranging from 3 – 6 students in a batch and a maximum of 5 – 6 batches for the whole class. The students in batches will be decided by the instructor. Choice of batch formation shall not be given to the students. The average CGPA of the batches should be roughly

same meaning thereby that each batch will consist of students with high average and low CGPA.

(c) The projects to be given shall be decided by the instructor in such a manner that it involves gaining knowledge of the subject and additionally forces students to demonstrate skill acquisition at least in the following areas:

- (i) Problem solving
- (ii) Team working
- (iii) Communication skills (both oral and written)
- (iv) Economic considerations
- (v) Acquisition of knowledge in allied areas as required by the Project

The Project should preferably be a **live problem relevant to Indian society**.

(d) The instructor shall help the students in developing the project by giving hints and suggestions, but normally should refrain from giving ready-made solutions. If need be, the instructor may deliver short lectures.

(e) In order to force the students to work consistently throughout the semester, an assessment-cum-assistance session should be carried out on a fortnightly basis or more frequently, if felt necessary by the instructor.

(f) The evaluation scheme for Project Based Learning courses shall be as under:

- (i) Each fortnightly assessment - 8%
(First assessment should be at the end of 3rd week from the beginning of the semester and thereafter fortnightly assessment. A total of six assessments giving a total percentage $6 \times 8 = 48\%$) - 48%
- (ii) Report at the end of the semester - 10%
- (iii) Semester end presentation by the students - 10%
- (iv) Viva-voce at the end of the semester - 16%
- (v) Peer group evaluation (i.e. evaluation by the fellow - 8% students not belonging to the same batch)
- (vi) Self-assessment by the student concerned (can be - 8% moderated by the instructor by discussing with the student concerned)

RUBRICS for Evaluation

Assessment-1	Exemplary ($\geq 80\%$)	Competent ($\geq 50\%$ & $< 80\%$)	Unsatisfactory ($< 50\%$)
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Literature Survey	Insightful and in-depth background information is provided to illuminate the issues through inclusion of history relevant to the presentation, the “big picture” and a succinct description of the significance of the project.	Background information is provided, including references to the work of others and an explanation of why the project was undertaken, to help put the presentation in context.	Little or no background information is presented to help the audience understand the history and significance of the project.
Problem Identification	The problem has been shown (not just stated) to exist with supporting factual evidence.	The problem has stated but has weak support.	Problem has not been stated clearly and lacks supporting evidence.

Assessment-2	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
Literature Survey	Existing solutions to the problem, including their good and bad points, have been stated.	Existing solutions have been stated. Additional discussion may be warranted in places.	Connection between references and what is written is not clear. Little investigation has been done.
Problem Formulation	The project’s objectives are clearly stated. Motivation for pursuing the project and its relevance are clearly established. There are clear expectations of the specific outputs or deliverables for the project. A set of measurable performance requirements has been created.	The project’s objectives are presented. The motivation for pursuing the project and its relevance are addressed. Expectations have been stated. Some objectives may not be measurable.	The project’s objectives are missing or incomplete. There is little or no discussion of motivation or relevance. Expectations have been stated but needs clarity. Most objectives are not measurable.
Gantt Chart	A plan stating the completion date, and required resources has been presented. Gantt chart has been generated.	Some aspects of the plan have not been fully developed.	Lack of planning is evident.

Assessment-3	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
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Methodology	A system block diagram has been developed to assist the team in solving the design. All blocks have been broken down to a manageable level. <i>For web/ mobile applications:</i> Pages are attractive and consistent in style throughout the site. Site is well organized and is easily navigated from any page. Graphic elements are appropriate, of high quality, and are creatively used to enhance content.	A system block diagram has been developed to assist the team in solving the design. Not all blocks have been broken down to a manageable level. <i>For web/ mobile applications:</i> Pages are attractive, but not consistent in style throughout the site. Site is well organized. Graphic elements are appropriate and are of acceptable quality to enhance content.	A system block diagram has not been fully developed. Problem has not been broken down to manageable tasks and blocks. <i>For web/ mobile applications:</i> Pages are unattractive. Site is not organized or consists of a single page. Graphic elements are not appropriate or not used, or are of such poor quality that they detract from content.
Coding/ Implementation	All major points of the project were completed as per planning.	Most points of the project were completed as per planning.	Little or none of the project was completed as per planning.

Assessment-4	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
Coding/ Implementation	All major points of the project were completed as per planning.	Most points of the project were completed as per planning.	Little or none of the project was completed as per planning.

Assessment-5	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
Coding/ Implementation	All major points of the project were completed as per planning.	Most points of the project were completed as per planning.	Little or none of the project was completed as per planning.
Presentation	Clearly heard and polished. Attitude indicates confidence and enthusiasm and audience attention is constantly maintained. Presenters demonstrate full knowledge of the material and can explain and elaborate on expected questions.	Clearly heard but not polished. Attitude indicates confidence but not enthusiasm and audience attention are mostly maintained. Presenters have sufficient knowledge of the material to answer expected questions.	Difficult to hear and/or moments of awkwardness. Attitude indicates some lack of confidence and/or disinterest in subject and audience attention is minimally maintained. Presenters cannot answer expected questions.
Peer Evaluation	To greatest extent	To great extent	To some extent or no contribution

Assessment-6	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
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Coding/ Implementation	All major points of the project were completed as per planning.	Most points of the project were completed as per planning.	Little or none of the project was completed as per planning.
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End Term Assessment	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
Viva	Answers the questions to greatest extent	Answers the questions to a great extent	Answers the questions to some extent
Report	Addresses all specified content areas. Material abundantly supports the topic. All items are labelled in accordance with engineering standards and are referred to in the text. Prior work is acknowledged by referring to sources for theories, assumptions, quotations, and findings. References are in IEEE format.	Addresses most of the specified content areas. Material minimally supports the topic. Use of engineering terms and jargon with some minor exceptions, references are in IEEE format.	Addresses few of the content areas. Material does not support the topic. There is no corresponding explanatory text for included items. Little attempt is made to acknowledge the work of others. Most references that are included are inaccurate or unclear.
Presentation	Clearly heard and polished. Attitude indicates confidence and enthusiasm and audience attention is constantly maintained. Presenters demonstrate full knowledge of the material and can explain and elaborate on expected questions.	Clearly heard but not polished. Attitude indicates confidence but not enthusiasm and audience attention are mostly maintained. Presenters have sufficient knowledge of the material to answer expected questions.	Difficult to hear and/or moments of awkwardness. Attitude indicates some lack of confidence and/or disinterest in subject and audience attention is minimally maintained. Presenters cannot answer expected questions.
Peer Evaluation	To greatest extent.	To great extent.	To some extent or no contribution.

Software development automation

The automated software development process is characterized by the following characteristics:

1. A **single common code repository** is put in place. All developers place the code they write in the repository. Currently, Git is the most popular version control system. The code in the repository is the sole source of software in the project.
2. There is the so-called **“build process”** in place. The build process is a standardized method for creating and building subsequent software copies. Every developer, tester, testing script and mechanism uses the exact same process.

3. **The build process is automated.** Obtaining the current version of the software does not require anybody to perform a large number of manual actions. In an ideal situation, the build process is another script or a piece of software, which is also versioned in the code repository. A developer downloads the latest code from the repository, starts the build process (for example by starting a script) and obtains the current state of the application. The same script should be used by all the testing tools and testing environments, as well as for building demo versions.
4. **The build process is fast.** Building the software package does not last too long. This allows for testing results and implementing fixes multiple times.
5. The team commits changes often, every day or several times per day at best. The working code is pushed to the master branch in the version control system on an ongoing basis.
6. **The testing environment should resemble the production environment** as closely as possible. In an ideal situation, it would be a direct copy of a production environment.
7. **The process of pushing software to production is automated.** In a best-case scenario, pushing new changes to production should be done by clicking a single button or running a single script.

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Assessment-1	Exemplary ($\geq 80\%$)	Competent ($\geq 50\%$ & $< 80\%$)	Unsatisfactory ($< 50\%$)
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Problem Identification	The problem has been shown (not just stated) to exist with supporting factual evidence.	The problem has stated but has weak support.	Problem has not been stated clearly and lacks supporting evidence.

Assessment-2	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
Literature Survey	Existing solutions to the problem, including their good and bad points, have been stated.	Existing solutions have been stated. Additional discussion may be warranted in places.	Connection between references and what is written is not clear. Little investigation has been done.
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Gantt Chart	A plan stating the completion date, and required resources has been presented. Gantt chart has been generated.	Some aspects of the plan have not been fully developed.	Lack of planning is evident.

Assessment-3	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
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Coding/ Implementation	All major points of the project were completed as per planning.	Most points of the project were completed as per planning.	Little or none of the project was completed as per planning.

Assessment-4	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
Coding/ Implementation	All major points of the project were completed as per planning.	Most points of the project were completed as per planning.	Little or none of the project was completed as per planning.

Assessment-5	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
Coding/ Implementation	All major points of the project were completed as per planning.	Most points of the project were completed as per planning.	Little or none of the project was completed as per planning.
Presentation	Clearly heard and polished. Attitude indicates confidence and enthusiasm and audience attention is constantly maintained. Presenters demonstrate full knowledge of the material and can explain and elaborate on expected questions.	Clearly heard but not polished. Attitude indicates confidence but not enthusiasm and audience attention are mostly maintained. Presenters have sufficient knowledge of the material to answer expected questions.	Difficult to hear and/or moments of awkwardness. Attitude indicates some lack of confidence and/or disinterest in subject and audience attention is minimally maintained. Presenters cannot answer expected questions.
Peer Evaluation	To greatest extent	To great extent	To some extent or no contribution

Assessment-6	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
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Coding/ Implementation	All major points of the project were completed as per planning.	Most points of the project were completed as per planning.	Little or none of the project was completed as per planning.
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End Term Assessment	Exemplary (>=80%)	Competent (>=50% &<80%)	Unsatisfactory (<50%)
Viva	Answers the questions to greatest extent	Answers the questions to a great extent	Answers the questions to some extent
Report	Addresses all specified content areas. Material abundantly supports the topic. All items are labelled in accordance with engineering standards and are referred to in the text. Prior work is acknowledged by referring to sources for theories, assumptions, quotations, and findings. References are in IEEE format.	Addresses most of the specified content areas. Material minimally supports the topic. Use of engineering terms and jargon with some minor exceptions, references are in IEEE format.	Addresses few of the content areas. Material does not support the topic. There is no corresponding explanatory text for included items. Little attempt is made to acknowledge the work of others. Most references that are included are inaccurate or unclear.
Presentation	Clearly heard and polished. Attitude indicates confidence and enthusiasm and audience attention is constantly maintained. Presenters demonstrate full knowledge of the material and can explain and elaborate on expected questions.	Clearly heard but not polished. Attitude indicates confidence but not enthusiasm and audience attention are mostly maintained. Presenters have sufficient knowledge of the material to answer expected questions.	Difficult to hear and/or moments of awkwardness. Attitude indicates some lack of confidence and/or disinterest in subject and audience attention is minimally maintained. Presenters cannot answer expected questions.
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Software development automation

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1. A **single common code repository** is put in place. All developers place the code they write in the repository. Currently, Git is the most popular version control system. The code in the repository is the sole source of software in the project.
2. There is the so-called **“build process”** in place. The build process is a standardized method for creating and building subsequent software copies. Every developer, tester, testing script and mechanism uses the exact same process.

3. **The build process is automated.** Obtaining the current version of the software does not require anybody to perform a large number of manual actions. In an ideal situation, the build process is another script or a piece of software, which is also versioned in the code repository. A developer downloads the latest code from the repository, starts the build process (for example by starting a script) and obtains the current state of the application. The same script should be used by all the testing tools and testing environments, as well as for building demo versions.
4. **The build process is fast.** Building the software package does not last too long. This allows for testing results and implementing fixes multiple times.
5. The team commits changes often, every day or several times per day at best. The working code is pushed to the master branch in the version control system on an ongoing basis.
6. **The testing environment should resemble the production environment** as closely as possible. In an ideal situation, it would be a direct copy of a production environment.
7. **The process of pushing software to production is automated.** In a best-case scenario, pushing new changes to production should be done by clicking a single button or running a single script.

Detailed Syllabus
Lecture-wise Breakup

Course Code	17M17CS212	Semester Odd 2024 (Odd Semester)	Semester 3rd Session 2024 -2025 Month from July, 2024 to Dec., 2024
Course Name	Seminar and Term Paper		
Credits	4	Contact Hours	

Faculty (Names)	Coordinator(s)	Kavita Pandey
	Teacher(s) (Alphabetically)	Kavita Pandey

COURSE OUTCOMES		COGNITIVE LEVELS
C212.1	Identify the relevant research problem and its associated literature in the field of computer science.	Understand (level 2)
C212.2	Examine the research gaps by analyzing the research articles.	Analyze (level 4)
C212.3	Appraise their communication and presentation skills by delivering the research findings through a seminar presentation.	Evaluate (level 5)
C212.4	Create a comprehensive report by compiling the research findings, ensuring both accuracy and clarity in the presented information.	Create (level 6)

Module No.	Title of the Module	Topics in the Module	No. of Lectures for the module
1.
2.
3.
4.
5.
6.
7.
...
<i>n.</i>
			...

Evaluation Criteria	
Components	Maximum Marks
Day to day work prior to Midterm	20
Mid term Seminar and Report	20
Day to day work after Midterm	20
End term Seminar	20
Term Paper	20
Total	100

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Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)

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Detailed Syllabus
Lecture-wise Breakup

Course Code	17M17CS212	Semester Odd 2024 (specify Odd/Even)	Semester 10th Session 2024 -2025 Month from July, 2024 to Dec., 2024
Course Name	Seminar and Term Paper		
Credits	4	Contact Hours	

Faculty (Names)	Coordinator(s)	Kavita Pandey
	Teacher(s) (Alphabetically)	Kavita Pandey

COURSE OUTCOMES		COGNITIVE LEVELS
C212.1	Identify the relevant research problem and its associated literature in the field of computer science.	Understand (level 2)
C212.2	Examine the research gaps by analyzing the research articles.	Analyze (level 4)
C212.3	Appraise their communication and presentation skills by delivering the research findings through a seminar presentation.	Evaluate (level 5)
C212.4	Create a comprehensive report by compiling the research findings, ensuring both accuracy and clarity in the presented information.	Create (level 6)

Module No.	Title of the Module	Topics in the Module	No. of Lectures for the module
1.
2.
3.
4.
5.
6.
7.
...
<i>n.</i>
			...

Evaluation Criteria	
Components	Maximum Marks
Day to day work prior to Midterm	20
Mid term Seminar and Report	20
Day to day work after Midterm	20
End term Seminar	20
Term Paper	20
Total	100

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)

1.	...
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<i>m.</i>	...

Detailed Syllabus
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Course Code	17M17CS213	Semester ODD (specify Odd/Even)	Semester III (ODD) Session 2024 - 2025 Month from July to December 2024
Course Name	Dissertation CSE (NBA Code: C213)		
Credits	4	Contact Hours	8

Faculty (Names)	Coordinator(s)	Dr. Taj Alam
	Teacher(s) (Alphabetically)	Dr. Taj Alam

COURSE OUTCOMES		COGNITIVE LEVELS
C213.1	Identify and refine a research problem after critical analysis of relevant literature.	Analyze (Level-4)
C213.2	Apply appropriate research methodology to design and implement the solution of research problem	Apply (Level-3)
C213.3	Critically analyse and evaluate the proposed solution with respect to state-of-art	Evaluate (Level-5)
C213.4	Report the research findings clearly and effectively both in written and oral form while following the research ethics.	Create (Level-6)
C213.5	Demonstrate significant research contribution in relation to employability and higher studies.	Create (Level-6)

Evaluation Criteria :	
Day to day work to be awarded by Supervisor - 40 Marks	
End Semester Evaluation by a panel of Examiners - 60 Marks	
Total	100 Marks

COs	PO 1	PO 2	PO 3	PSO1	PSO2
C213.1	2 Student will do critical analysis of relevant literature to find the existing gaps		1 Student will frame the research objectives based on the existing gaps.	1 Student will investigate some real life computing problems	1 While investigating the research problem, student will follow all the research ethics.

C213.2	3 Student will propose design to fill the existing gaps	1 Student will draw the design diagram in the report	2 Student will propose novel solution for the identified problem	3 Student will propose novel solution for the some real life computing problems	2 While proposing the solution, student will follow all the research ethics.
C213.3	1 Student will investigate the evaluation metrics	2 Student mention the evaluation metrics in the report	3 Student will evaluate the proposed design and check its goodness	3 Student will evaluate the proposed solution for the some real life computing problems	2 While evaluation, student will follow all the research ethics.
C213.4		3 Students will submit a project report	3 Students will submit a project report from the selected domain		3 While writing the report, student will follow all the research ethics.
C213.5		2 Students will write a research paper as well	3 Mastery in the domain will be demonstrated in the form of research paper.		3 While writing the paper, student will follow all the research ethics.
Avg.	2	2	2	2	2

Detailed Syllabus
Lecture-wise Breakup

Course Code	17M17CS214	Semester ODD (specify Odd/Even)	Semester III Session 2024 -2025 Month from July to December 2024
Course Name	Industrial Project (CSE) (NBA Code: C214)		
Credits	4	Contact Hours	8

Faculty (Names)	Coordinator(s)	Dr. Taj Alam
	Teacher(s) (Alphabetically)	Dr. Taj Alam

COURSE OUTCOMES		COGNITIVE LEVELS
C214.1	Identify the real world problems after critical analysis of existing solutions and tools in relevant industry	Analyze (Level-4)
C214.2	Apply engineering knowledge to design and implement the solution	Apply (Level-3)
C214.3	Critically analyse and evaluate the proposed solution with respect to alternatives	Evaluate (Level-5)
C214.4	Report the project findings clearly and effectively both in written and oral form in relation to employability while following the industry/ research ethics	Create (Level-6)

<p>Evaluation Scheme</p> <p>To be awarded by Supervisor from Industry (i) Problems statements and identification of work plan - 10 Marks (ii) Execution of work plan and progress made - 40 Marks</p> <p>Total (a) : 50 Marks</p> <p>To be awarded by Supervisor from JIIT (iii) Interaction with Internal Supervisor upto mid semester - 10 Marks (iv) Interaction with Internal Supervisor from mid to end semester - 10 Marks (v) Report, Presentation and Viva-Voce at the end of semester - 30 Marks by a panel of examiners consisting of Internal Supervisor, a nominee of HoD and a nominee of Dean A & R /RID as approved by VC</p> <p>Total (b): 50 Marks Grand Total (a+b) : 100 Marks</p>

COs	PO 1	PO 2	PO 3	PSO1	PSO2
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C214.1	2 Student will do critical analysis of relevant literature/ solutions/ tools to find the existing gaps		1 Student will frame the research objectives based on the existing gaps.	1 Student will investigate some real life computing problems	1 While investigating the research problem, student will follow all the industry ethics.
C214.2	3 Student will propose design to fill the existing gaps	1 Student will draw the design diagram in the report	2 Student will propose novel solution/ implementation for the identified problem.	3 Student will propose novel solution for the some real life computing problems	2 While proposing the solution, student will follow all the industry ethics.
C214.3	1 Student will investigate the evaluation metrics	2 Student mention evaluation methods in the report	3 Student will evaluate and analyze the proposed design and check its goodness	3 Student will evaluate the proposed solution for the some real life computing problems	2 While evaluation, student will follow all the industry ethics.
C214.4		3 Students will submit a project report	3 Students will submit a project report from the selected domain		3 While writing the report, student will follow all the industry ethics.
Avg.	2	2	2	2	2

Detailed Syllabus
Lecture-wise Breakup

Course Code	17M17CS215	Semester ODD (specify Odd/Even)	Semester III Session 2024 -2025 Month from July to December 2024
Course Name	Entrepreneurial Project (CSE) NBA code : C215		
Credits	4	Contact Hours	8
Faculty (Names)	Coordinator(s)	Dr. Taj Alam	
	Teacher(s) (Alphabetically)	Dr. Taj Alam	

COURSE OUTCOMES		COGNITIVE LEVELS
C215.1	Identify the real world problems after critical analysis of existing solutions and tools in relevant industry	Analyze (Level-4)
C215.2	Apply engineering knowledge to design and implement the solution	Apply (Level-3)
C215.3	Critically analyse and evaluate the proposed solution with respect to alternatives	Evaluate (Level-5)
C215.4	Report the project findings clearly and effectively both in written and oral form in relation to employability while following the research ethics	Create (Level-6)
Evaluation Scheme		
Day to day work to be awarded by Supervisor - 40 Marks		
End Semester Evaluation by a panel of Examiners - 60 Marks		
Total		100 Marks

COs	PO 1	PO 2	PO 3	PSO1	PSO2
C215.1	2 Student will do critical analysis of relevant literature/ solutions/ tools to find the existing gaps		1 Student will frame the research objectives based on the existing gaps.	1 Student will investigate some real life computing problems	1 While investigating the research problem, student will follow all the industry ethics.
C215.2	3 Student will propose design to fill the existing gaps	1 Student will draw the design diagram in the report	2 Student will propose novel solution/ implementation for the identified problem.	3 Student will propose novel solution for the some real life computing problems	2 While proposing the solution, student will follow all the industry ethics.

C215.3	1 Student will investigate the evaluation metrics	2 Student mention the evaluation methods in the report	3 Student will evaluate and analyze the proposed design and check its goodness	3 Student will evaluate the proposed solution for the some real life computing problems	2 While evaluation, student will follow all the industry ethics.
C215.4		3 Students will submit a project report	3 Students will submit a project report from the selected domain		3 While writing the report, student will follow all the industry ethics.
Avg.	2	2	2	2	2

Detailed Syllabus
Lecture-wise Breakup

Course Code	19M12HS211	Semester: Odd (specify Odd/Even)	Semester: III Session: 2024 -2025 Month from: July-December
Course Name	Cost Accounting for Engineering Projects		
Credits	03	Contact Hours	3-0-0

Faculty (Names)	Coordinator(s)	Dr. Purwa Srivastava
	Teacher(s) (Alphabetically)	Dr. Purwa Srivastava

COURSE OUTCOMES		COGNITIVE LEVELS
C201.1	Understand basic concepts of Cost Accounting	Understanding (C2)
C201.2	Apply concepts of cost in project management	Applying (C3)
C201.3	Analyze cost behaviour for decision making	Analyzing (C4)
C201.4	Evaluate different budgets for controlling the cost	Evaluating (C5)

Module No.	Title of the Module	Topics in the Module	No. of Lectures for the module
1.	Introduction	Introduction & Overview of Strategic Cost Management Process	2
2.	Cost Concepts	Relevant Cost, Differential Cost, Incremental Cost, Opportunity Cost, Objectives of a costing system, Inventory Valuation, Provision of data for decision making	4
3.	Project execution	Meaning, Different types, why to manage, cost overruns centres, various stages of project execution: conception to commissioning. Project execution as conglomeration of technical and nontechnical activities. Detailed Engineering activities.	5
4.	Project Execution & Quantitative	Pre project execution main clearances and documents Project team: Role of each member. Importance Project site	7

	techniques for cost management	Data required with significance, Project contracts, Types and contents, Project execution, Project cost control, bar charts, Project commissioning, Linear Programming, PERT/CPM, Transportation problems, Assignment problems, Simulation, Learning Curve Theory	
5.	Cost Behavior	Distinction between Marginal Costing and Absorption Costing; Break-even Analysis, Cost-Volume-Profit Analysis. Various decision-making problems.	6
6.	Profit Planning Marginal Costing	Standard Costing and Variance Analysis. Pricing strategies: Pareto Analysis. Target costing, Life Cycle Costing. Costing of service sector. Just-in-time approach,	6
7.	Material Planning	Material Requirement Planning, Enterprise Resource Planning, Total Quality Management and Theory of constraints. Activity-Based Cost Management, Bench Marking; Balanced Score Card & value chain analysis.	6
8.	Budgetary Control	Flexible budgets, Performance budgets, zero based budgets, Measurements of divisional profitability pricing decisions including transfer pricing.	6
Total number of Lectures			42

Evaluation Criteria

Components	Maximum Marks
T1	20
T2	20
End Semester Examination	35
TA	25 (Quiz+ project)
Total	100

Project based learning: student will form the group of four to five students. To make subject application based, student will apply various concepts such as Cost management and various types of Costing, project execution & quantitative technique for cost management, cost behaviour and profit planning. Student will apply these concept on organization, or in any ongoing project or interdisciplinary base research project or any innovative idea in any particular industry along with feasibility.

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)

1.	S. M. Datar and M. Rajan, <i>Horngren's Cost Accounting: A Managerial Emphasis. 16th ed.</i> Pearson Education, 2018.
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2.	B. M. L. Nigam and I. C. Jain, <i>Cost Accounting: Principles And Practice</i> , PHI Learning Pvt. Ltd. PHI Learning Pvt. Ltd., 2010.
3.	R. S. Kaplan and A. A. Atkinson, <i>Advanced management accounting</i> . PHI Learning, 2015.
4.	A. K. Bhattacharyya, <i>Principles and practice of cost accounting</i> . PHI Learning Pvt. Ltd., 2004.
5.	N. D. Vohra, <i>Quantitative Techniques in Management, 3e</i> . Tata McGraw-Hill Education, 2006.
6.	C. Drury, <i>Management and Cost Accounting ,10th edition, Cengage Learning</i> . 2017.
7.	P. Chandra, <i>Projects-Planning Analysis, Selection, Implementation & Review 9e, Tata McGraw Hill, New Delhi</i> . 2019.

Detailed Syllabus
Lecture-wise Breakup

Course Code	19M13HS211	Semester: Odd	Semester: M.Tech III and M.Tech Integrated X Session: 2024 -2025 Month from: July-December 2024	
Course Name	Constitution of India			
Credits	2	Contact Hours	2-0-0	

Faculty (Names)	Coordinator(s)	Dr. Namreeta Kumari
	Teacher(s) (Alphabetically)	Dr. Namreeta Kumari

COURSE OUTCOMES		COGNITIVE LEVELS
C202.1	Demonstrate an understanding of the historical inheritances and institutional legacies of Indian Constitution	Understand (C2)
C202.2	Demonstrate an understanding of the powers and functions of the Indian executive, legislature and judiciary	Understand (C2)
C202.3	Analyse the nature of Indian constitution and its applicability in the study of politics in India.	Analyse (C4)
C202.4	Assess the devolution of powers and authority of governance of the Union government and the local government	Evaluate (C5)

Module No.	Title of the Module	Topics in the Module	No. of Lectures for the module
1.	History of Making of the Indian Constitution	<ul style="list-style-type: none"> • History • Drafting Committee-Composition & Working 	2

2.	Philosophy of the India Constitution	<ul style="list-style-type: none"> • Preamble • Salient Features • Federalism 	2
3.	Fundamental Rights and Directive Principles	<ul style="list-style-type: none"> • Right to Equality • Right to Freedom • Right against Exploitation • Right to Freedom of Religion • Cultural and Educational Rights • Right to Constitutional Remedies • Directive Principles of State Policy • Conflict between DPSP and FR • Fundamental Duties 	5
4.	Organs of Governance	<ul style="list-style-type: none"> • Parliament-Composition, Qualifications & and Disqualification, Powers and Functions • Executive- President, Governor Council of Ministers • Judiciary-Appointment and Transfer of Judges, Qualifications, Power and Functions 	8
5.	Local Administration	<ul style="list-style-type: none"> • District's Administration head: Role and Importance • Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation • Panchayati Raj: Introduction, PRI: Zila Panchayat. • Elected officials and their roles, CEO Zila Panchayat: Position and role • Block level: Organizational Hierarchy (Different departments) • Village level: Role of Elected and Appointed officials • Importance of Grass root democracy 	8
6.	Election Commission	<ul style="list-style-type: none"> • Election Commission: Role and Functioning 	3
Total number of Lectures			28

Evaluation Criteria	
Components	Maximum Marks
Mid Term:	30
End Semester Examination	40
TA	30 (Attendance, Quiz, Project)
Total	100

Project: Projects based on the different aspects of the Indian Constitution have to be submitted by the students as a part of the project-based learning. This would help the students learn about the nitty gritty of the Constitution, their rights and duties which would later on help them not only in their work place but in their general life.

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)	
1.	Austin, G. (1996). <i>The Indian Constitution: Corner Stone of a Nation</i> . Oxford: Oxford University Press
2.	Bakshi, P.M.(2015). <i>The Constitution of India</i> . Delhi: Universal Law Pub. Co. Pvt. Ltd
3.	Bhuyan, D. (2016). <i>Constitutional Government and Democracy in India</i> . Cuttack:Kitab Mahal..
4.	Busi, S.N. (2016). <i>Dr. B. R. Ambedkar framing of Indian Constitution</i> . Hyderabad: Ava Publishers
5.	Basu, D.D. (2018). <i>Introduction to the Constitution of India</i> . Nagpur: Lexis Nexis
6.	Jayal, N.G. & Mehta, P.B. (eds.) (2010). <i>The Oxford Companion to Politics in India</i> . New Delhi: Oxford University Press.
7.	Constitution series by Rajya Sabha Television and discussion on Indian Constitution by Rajya Sabha Television