

## For the students who are willing to take an Industry Internship for one-semester duration and independent project work next semester

### M.Tech, in Electronics and Communication Engineering (Specialization in Digital Communication and Networking) (LDN)

**Choice Based Credit System (CBCS) and Outcome Based Education (OBE)**  
(Effective from the academic year 2024 - 25)

#### SEMESTER – IV (B)

<b>PROJECT WORK</b>			
Course Code	<b>MPRJ481</b>	CIE Marks	100
Teaching Hours/Week (L:P:SDA)	4:8:0	SEE Marks	100
Credits	20	Total Marks	200
		Exam Hours	03
<p><b>Course Learning objectives:</b> This course will enable students to:</p> <ul style="list-style-type: none"> <li>• To encourage independent learning and the innovative attitude of the students.</li> <li>• To develop an interactive attitude, communication skills, organization, time management, and presentation skills.</li> <li>• To impart flexibility and adaptability.</li> <li>• To inspire team work.</li> <li>• To expand intellectual capacity, credibility, judgment, and intuition.</li> <li>• To adhere to punctuality, setting and meeting deadlines.</li> <li>• To instill responsibilities to oneself and others.</li> <li>• To train students to present the topic of project work in a seminar without any fear, face the audience confidently, enhance communication skills, involved in group discussions to present and exchange ideas.</li> </ul> <p><b>Project Work:</b> Students in consultation with the guide shall carry out literature survey/ visit industries to finalize the topic of the Project. Subsequently, the students shall collect the material required for the selected project, prepare a synopsis, and narrate the methodology to carry out the project work. Each student, under the guidance of a Faculty, is required to</p> <ul style="list-style-type: none"> <li>▪ Present the seminar on the selected project orally and/or through Power Point slides.</li> <li>▪ Answer the queries and be involved in debate/discussion.</li> <li>▪ Submit two copies of the typed report with a list of references.</li> <li>▪ The participants shall take part in discussions to foster a friendly and stimulating environment in which the students are motivated to reach high standards and become self-confident</li> </ul> <p><b>Continuous Internal Evaluation (100 Marks):</b> CIE marks for the project report (60 marks), seminar (20 marks) and question and answer (20marks) shall be awarded (based on the quality of report and presentation skill, participation in the question and answer session by the student) by the committee constituted for the purpose by the Principal.</p>			

The committee shall consist of an internal guide and a faculty from the department with the senior most acting as the Chairperson.

**Semester End Examination (100 Marks):**

SEE marks for the project report (60 marks), seminar (20marks) and question and answer session (20 marks) shall be awarded (based on the quality of report and presentation skill, participation in the question and answer session) by the examiners appointed by the University.

**Course outcomes:** At the end of the course the student will be able to:

- Present the project and be able to defend it.
- Make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task.
- Habituated to critical thinking and use problem solving skills
- Communicate effectively and to present ideas clearly and coherently in both the written and oral forms.
- Work in a team to achieve common goal.
- Learn on their own, reflect on their learning and take appropriate actions to improve it.

**RBT Level: L3, L4, L5, L6**

**For the students who are willing to take a research-leading  
paper publication in Q1/Q2/Q3 Journals and to a PhD  
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**SEMESTER – III (C)**

<b>PROFESSIONAL ELECTIVE V &amp; VI</b>			
Course Code	<b>MLDN311, MLDN312, MLDN313 &amp; MLDN314</b>	CIE Marks	100
Teaching Hours/Week (L:P:SDA)	(3:0:0)	SEE Marks	---
Total Hours of Pedagogy	12 Weeks	Total Marks	100
Credits	03	Exam Hours	03
<p><b>Course Learning objectives:</b> This course will enable students to:</p> <ul style="list-style-type: none"> <li>• Develop a foundational understanding of key concepts, theories, and principles relevant to the course subject.</li> <li>• Enhance analytical skills by evaluating information, identifying biases, and making informed decisions based on evidence.</li> <li>• Apply learned theories and concepts to real-world scenarios through projects, case studies, or simulations.</li> <li>• Cultivate the ability to locate, evaluate, and utilize credible sources for academic writing and projects.</li> <li>• Improve written and verbal communication skills through discussions, presentations, and collaborative projects.</li> <li>• Gain proficiency in utilizing various digital tools and platforms relevant to the course content.</li> <li>• Foster the ability to work effectively in virtual teams, respecting diverse perspectives and contributions.</li> <li>• Encourage independent study habits and self-motivation to pursue additional resources beyond the course material.</li> <li>• Understand and apply ethical principles related to the field of study, including issues of integrity and responsibility.</li> <li>• Develop skills in giving and receiving constructive feedback, and engage in self-reflection to enhance personal and academic growth.</li> </ul> <ul style="list-style-type: none"> <li>• <b>MLDN311 to 314:</b> MOOC courses of 12 weeks duration are the courses suggested by the Board of Studies of the University and will be displayed on <a href="http://www.online.vtu.ac.in">www.online.vtu.ac.in</a>. The online courses selected should not be the same as those studied in the first and second semesters of the program. The student will not be eligible to get their degree if they unintentionally select online courses that match previously finished courses.</li> </ul>			

PROJECT PHASE-1			
Course Code	MPRJ385	CIE Marks	100
Teaching Hours/Week (L:P:SDA)	One Semester Duration	SEE Marks	---
Credits	06	Total Marks	100
		Exam Hours	03

**Course Learning objectives:** This course will enable students to:

- To encourage independent learning and the innovative attitude of the students.
- To develop an interactive attitude, communication skills, organization, time management, and presentation skills.
- To impart flexibility and adaptability.
- To inspire team work.
- To expand intellectual capacity, credibility, judgment, and intuition.
- To adhere to punctuality, setting and meeting deadlines.
- To instill responsibilities to oneself and others.
- To train students to present the topic of project work in a seminar without any fear, face the audience confidently, enhance communication skills, involved in group discussions to present and exchange ideas.

The research section of the university has to announce the number of seats for M.Tech. Students who are seeking PhD (research study) admission through a project leading to the publication of the paper in Q1/Q2/Q3 journals. Only full-time research work will be permitted in the university department or approved research centers of the affiliated colleges of the university (guidelines need to be set up). Based on seat availability, the students are permitted to register for project work leading to the publication of papers in Q1/Q2/Q3 journals and admission to research (PhD) in their 3rd semester of the M.Tech., program

**Project Phase-1** Project Phase-I, typically the initial phase in any project, is crucial as it lays the foundation for the entire project. This phase involves defining the project's scope, objectives, and initial planning. Here's a structured approach to effectively carry out Project Phase-I:

- **Project Charter:** Outlines the project's purpose, objectives, and stakeholders.
- **Scope Statement:** Defines the project boundaries and deliverables.
- **Requirements Document:** Captures all project requirements.
- **Project Plan:** Details the approach, timeline, and resource allocation.
- **Risk Management Plan:** Identifies and plans for potential risks.
- **Feasibility Study Report:** Assesses technical, economic, and operational feasibility.

Students in consultation with the guide shall carry out literature survey/visit industries to finalize the topic of the Project. Subsequently, the students shall collect the material required for the selected

project, prepare a synopsis, and narrate the methodology to carry out the project work. Each student, under the guidance of a faculty, is required to

- Present the seminar on the selected project orally and/or through power point slides.
- Answer the queries and be involved in debate/discussion.
- Submit two copies of the typed report with a list of references.
- The participants shall take part in discussions to foster a friendly and stimulating environment in which the students are motivated to reach high standards and become self-confident.

**Continuous Internal Evaluation (100 Marks).**

CIE marks for the project report (60 marks), seminar (20 marks) and question and answer (20marks) shall be awarded (based on the quality of report and presentation skill, participation in the question and answer session by the student) by the committee constituted for the purpose by the Principal. The committee shall consist of an internal guide and a faculty from the department with the senior most acting as the Chairperson.

**Course outcomes:** At the end of the course the student will be able to:

- Present the project and be able to defend it.
- Make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task.
- Habituated to critical thinking and use problem solving skills
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**SEMESTER – IV (C)**

<b>PROJECT PHASE-II</b>			
Course Code	<b>MPRJ481</b>	CIE Marks	100
Teaching Hours/Week (L:P:SDA)	0:8:0	SEE Marks	100
Credits	22	Total Marks	200
Exam Hours			03
<p><b>Course Learning objectives:</b> This course will enable students to:</p> <ul style="list-style-type: none"> <li>• To encourage independent learning and the innovative attitude of the students.</li> <li>• To develop an interactive attitude, communication skills, organization, time management, and presentation skills.</li> <li>• To impart flexibility and adaptability.</li> <li>• To inspire team work.</li> <li>• To expand intellectual capacity, credibility, judgment, and intuition.</li> <li>• To adhere to punctuality, setting and meeting deadlines.</li> <li>• To instill responsibilities to oneself and others.</li> <li>• To train students to present the topic of project work in a seminar without any fear, face the audience confidently, enhance communication skills, involved in group discussions to present and exchange ideas.</li> </ul> <p><b>Project Work Phase-II:</b> Each student shall be involved in carrying out the project work jointly in constant consultation with internal guide and external guide and prepare the project report as per the norms of the university to avoid plagiarism. Phase II of a project typically involves the detailed execution of the planned activities, continuous monitoring and control of the project's progress, and making necessary adjustments to ensure the project stays on track. Keep detailed records of all project activities, decisions, and changes. Ensure all project documentation is organized and accessible. Conduct a final project review to evaluate overall performance, achievements, and lessons learned. Document best practices and areas for improvement for future projects.</p> <p><b>Paper Publication Process:</b> Publishing a research paper based on your project in a Q1/Q2/Q3 journal involves several key steps, from writing the manuscript to navigating the peer review process. Here's a comprehensive guide:</p>			

**Writing the Manuscript:** Choose a clear and concise title that accurately reflects the content. Write an abstract summarizing the research question, methods, results, and conclusions.

**Literature Review:** Review relevant existing research to establish the foundation of your study. Identify gaps that your research aims to fill.

**Methodology:** Describe the research design, methods, and procedures in detail. Include information on data collection, analysis, and any tools or software used.

**Results:** Present the findings of your research clearly and logically. Use tables, figures, and charts to illustrate key results.

**Discussion:** Interpret the results and explain their implications. Compare your findings with existing research and discuss any discrepancies or new insights.

**Conclusion:** Summarize the main findings and their significance. Suggest potential future research directions.

**References:** Cite all sources used in your research following the journal's citation style.

**Journal Selection:** Choose a journal that aligns with the scope and focus of your research. Consider the journal's impact factor (Q1, Q2, Q3) and audience.

**Review Journal Guidelines:** Carefully read the journal's submission guidelines and ensure your manuscript adheres to them.

**Prepare Your Manuscript:** Format your manuscript according to the journal's guidelines. Include all required sections and supplementary materials.

**Cover Letter:** Write a cover letter to the journal editor highlighting the significance of your research and why it fits the journal.

**Submit the Manuscript:** Use the journal's online submission system to submit your manuscript. Ensure all required information and documents are included.

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