

**Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)**



M.Tech. (First Semester – Regular/Supplementary) Examinations, January – 2026
24MRMMC11001 – Research Methodology and IPR

Time: 2 hrs

Maximum: 60 Marks

**Answer ALL questions
(The figures in the right hand margin indicate marks)**

PART – A **(2 x 5 = 10 Marks)**

	CO #	Blooms Level
Q.1. Answer <i>ALL</i> questions		
a. Define research and state any two main objectives of research.	CO1	K1
b. How does a good research design support the selection of an appropriate research problem? Briefly explain.	CO2	K2
c. How can a literature review help in identifying research gaps?	CO3	K4
d. Why IPR is required? State any two objectives of IPR.	CO6	K1
e. Mention two ethical responsibilities of authors in research publishing.	CO6	K2

PART – B **(10 x 5 = 50 Marks)**

	Marks	CO #	Blooms Level
<u>Answer ALL the questions</u>			
2. a. Define research and explain the meaning, objectives, and significance of research in academic and industrial contexts.	5	CO1	K1
b. Explain the various research approaches and compare their advantages and limitations.	5	CO1	K4
(OR)			
c. Describe the concept of research methodology and differentiate clearly between research methods and research methodology.	5	CO1	K4
d. Explain the scientific method and discuss how it differs from the general research method with suitable illustrations.	5	CO1	K4
3.a. Define a research problem and explain the systematic steps involved in selecting a suitable research problem for a scientific study.	5	CO2	K2
b. Analyze the need for research design in research studies. How does a good research design support effective problem investigation?	5	CO2	K4
(OR)			
c. Define Research Design. Explain its role in translating a clearly defined research problem into a structured research plan.	5	CO2	K2
d. Explain the criteria for selecting a good research problem. Illustrate your answer with suitable examples.	5	CO2	K4
4.a. Describe the steps involved in conducting a review of literature. Apply these steps to identify a potential research problem in any chosen domain.	5	CO3	K3
b. Explain the process of reviewing selected literature. Demonstrate how this process helps in narrowing down a broad research problem into a specific one.	5	CO3	K3
(OR)			
c. Evaluate the importance of primary data in identifying research gaps through literature review.	5	CO3	K5
d. Analyze the role of data collection methods in strengthening research methodology identified through literature review.	5	CO3	K4
5.a. Design a suitable data collection plan for an experimental research study and	5	CO4	K6

	justify the selected methods.			
b.	Explain the structure of a scientific report and discuss the role of each major component.	5	CO5	K3
	(OR)			
c.	Compare experimental and survey methods of data collection and justify their suitability for different research problems.	5	CO4	K4
d.	Differentiate between technical reports, research reports, review reports, and project reports with suitable examples.	5	CO5	K4
6.a.	Explain the concept of Intellectual Property Rights (IPR) and discuss its importance in fostering innovation, research, and economic development.	5	CO6	K2
b.	Explain plagiarism and discuss various types of plagiarism commonly observed in research publications.	5	CO6	K2
	(OR)			
c.	Explain the concept of technology transfer and discuss its significance in converting research outcomes into commercial products.	5	CO6	K2
d.	Explain the concept of copyright and discuss the rights granted to authors under copyright law.	5	CO6	K2

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