B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

June / July 2025 Semester End Main Examinations

Programme: B.E.
Branch: Artificial Intelligence and Machine Learning
Course Code: 24AM5AERMD
Course: RESEARCH METHODOLOGY

Semester: V
Duration: 3 hrs.
Max Marks: 100

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

			UNIT - I	CO	PO	Marks
	1	a)	Illustrate the research process using a flowchart and analyze the stages in the research process.	CO1	PO1	**10**
		b)	Evaluate the challenges faced by researchers in India and their implications for research quality.	CO1	PO1	**10**
			OR			
	2	a)	Identify and elucidate different types of research and provide appropriate examples for each type.	CO1	PO1	**10**
		b)	Explain the following: i. Research problem identification process. ii. Errors in selecting research problem.	CO1	PO1	**10**
			UNIT - II			
	3	a)	Analyze the role of literature review in shaping a research study.	CO2	PO2	**10**
		b)	Identify and evaluate various sources for conducting a literature review with examples.	CO1	PO1	**10**
			OR			
	4	a)	Demonstrate the key features of good research design with examples.	CO1	PO1	**10**
		b)	Assess the difference between conceptual framework and theoretical framework in research.	CO1	PO1	**10**
			UNIT - III			
	5	a)	Examine the differences between qualitative data vs quantitative data.	CO2	PO2	**10**

		b)	Identify and elucidate various sources of errors in measurement scales.	*CO2*	*PO2*	**10**
			OR			
6		a)	Analyze the steps involved in development of measurement tools with an example of comparing infrastructure facilities and quality of education in government schools and private schools.	*CO2*	*PO2*	**10**
		b)	Identify and explicate key aspects of goodness of measurement scales.	*CO2*	*PO2*	**10**
			UNIT - IV			
7		a)	Elucidate classification of data with relevant examples.	*CO2*	*PO2*	**10**
		b)	Identify and assess various primary and secondary sources of data with examples.	*CO2*	*PO2*	**10**
			OR			
8		a)	Analyze and explain various methods of data collection with their advantages and disadvantages.	*CO2*	*PO2*	**10**
		b)	Discuss the following with appropriate examples: i. Data collection. ii. Data processing. iii. Data analysis. iv. Data interpretation.	*CO1*	*PO1*	**10**
			UNIT - V			
9		a)	Explicate the precautions to be taken during the interpretation of data.	*CO3*	*PO2*	**10**
		b)	Discuss the guidelines for preparation of power point presentation.	*CO3*	*PO1*	**10**
			OR			
10		a)	Examine various techniques available for interpretation of data in research context.	*CO3*	*PO2*	**10**
		b)	Explain the structure and layout of an academic project report.	*CO2*	*PO1*	**10**

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