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

Autonomous Institute Affiliated to VTU

## January / February 2025 Semester End Main Examinations

Programme: B.E.

Branch: Mechanical Engineering

Course Code: 23ME5AEREM

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.

<b>Important Note:</b> Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.			<b>UNIT - I</b>	<b>CO</b>	<b>PO</b>	<b>Marks</b>
	1	a)	Define the aspect of Research. Analyze the various objectives of research.	CO2	PO4	10
		b)	Differentiate the following research methods with relevant examples from your domain: i. Applied research vs Fundamental research ii. Quantitative research vs Qualitative research	CO2	PO4	10
			<b>OR</b>			
	2	a)	Define and analyze the following: i. Research ii. Research Method iii. Research Methodology	CO2	PO4	10
		b)	Analyze the following research methods with relevant examples from your domain: i. Conceptual research vs Empirical research ii. Different types of Quantitative research	CO2	PO4	10
			<b>UNIT - II</b>			
	3	a)	Analyze the process of literature review in detail.	CO2	PO4	10
		b)	Analyze the following with relevant examples: i. Primary data source vs Secondary data source ii. Directional and Non-directional hypothesis	CO2	PO4	10
			<b>OR</b>			
	4		Analyze with an appropriate flowchart, the different stages of research process.	CO2	PO4	20

			<b>UNIT - III</b>			
5	a)	Explain the significance of Citation database for publication aspects.	CO2	PO4	<b>10</b>	
	b)	Describe the characteristics of a weak manuscript.	CO2	PO4	<b>10</b>	
		<b>OR</b>				
6	a)	Justify the statement: ‘Journal quality doesn’t depend only on Impact Factor’	CO2	PO4	<b>10</b>	
	b)	How do you calculate h – index? Explain with a suitable example.	CO2	PO4	<b>10</b>	
		<b>UNIT - IV</b>				
7	a)	Analyze with suitable examples the criteria for patentability in India.	CO2	PO4	<b>10</b>	
	b)	Interpret the differences between ‘Product Patent’ and ‘Process Patent’ with suitable examples.	CO2	PO4	<b>10</b>	
		<b>OR</b>				
8	a)	Interpret and analyze the various procedural steps involved in registering a Patent. Analyze the exceptions and limitations with respect to rights conferred on a patentee in India.	CO2	PO4	<b>10</b>	
	b)	List and analyze the non – patentable entities in India.	CO2	PO4	<b>10</b>	
		<b>UNIT - V</b>				
9	a)	Federal registration of Trademarks is a must for product manufacturing, Why?	CO2	PO4	<b>10</b>	
	b)	Analyze the various aspects of Copyright such as characteristics and subsistence.	CO2	PO4	<b>10</b>	
		<b>OR</b>				
10	a)	Analyze the various procedural steps involved in registering a Trademark.	CO2	PO4	<b>10</b>	
	b)	Analyze the concept of author and ownership of Copyright. Explain what constitutes infringement of Copyright.	CO2	PO4	<b>10</b>	

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