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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.**

**Semester: V**

**Branch: Mechanical Engineering**

**Duration: 3 hrs.**

**Course Code: 23ME5AEREM**

**Max Marks: 100**

**Course: Research Methodology**

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

			<b>UNIT - I</b>		<b>CO</b>	<b>PO</b>	<b>Marks</b>
<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.	1	a)	Define the aspect of Research. Analyze the various objectives of research.		CO2	PO4	<b>10</b>
		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	<b>10</b>
<b>OR</b>							
	2	a)	Define and analyze the following: i. Research ii. Research Method iii. Research Methodology		CO2	PO4	<b>10</b>
		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	<b>10</b>
<b>UNIT - II</b>							
	3	a)	Analyze the process of literature review in detail.		CO2	PO4	<b>10</b>
		b)	Analyze the following with relevant examples: i. Primary data source vs Secondary data source ii. Directional and Non-directional hypothesis		CO2	PO4	<b>10</b>
<b>OR</b>							
	4		Analyze with an appropriate flowchart, the different stages of research process.		CO2	PO4	<b>20</b>

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

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