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

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

Programme: B.E.

Semester: V

Branch: Chemical Engineering

Duration: 3 hrs.

Course Code: 23CH5AERMI

Max Marks: 100

Course: Research Methodology and IPR

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		<i>CO</i>	<i>PO</i>	Marks
Important Note: 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. Explain the criteria for good research.		<i>CO 1</i>	<i>PO 2</i>	10
		b)	Differentiate the following research methods with relevant examples from your domain: <ul style="list-style-type: none"> i. Applied research vs Fundamental research. ii. Quantitative research vs Qualitative research. 		<i>CO 1</i>	<i>PO 2</i>	10
		OR			<i>CO 1</i>	<i>PO 2</i>	
	2	a)	Define and explain the following: <ul style="list-style-type: none"> i. Research Method. ii. Research Methodology. 		<i>CO 1</i>	<i>PO 2</i>	10
		b)	Explain the following research methods with relevant examples from your domain: <ul style="list-style-type: none"> i. Descriptive research vs Analytical research. ii. Different types of Quantitative research. 		<i>CO 1</i>	<i>PO 2</i>	10
		UNIT - II			<i>CO 1</i>	<i>PO 2</i>	
	3	a)	Enumerate the steps in the process of developing hypothesis for research and explain the same in detail.		<i>CO 1</i>	<i>PO 2</i>	10
		b)	Illustrate the following with relevant examples: <ul style="list-style-type: none"> i. Primary data source vs Secondary data source. ii. Directional and Non-directional hypothesis. 		<i>CO 1</i>	<i>PO 2</i>	10
		OR					
4			With an appropriate flowchart, explain the different stages of research process.		<i>CO 1</i>	<i>PO 2</i>	20

UNIT - III					
5	a)	Explain the significance of Citation database for publication aspects.	CO 2	PO 10	10
	b)	How do you calculate h – index? Explain with a suitable example.	CO 2	PO 10	10
OR					
6	a)	Justify the statement: ‘Journal quality doesn’t depend only on Impact Factor’	CO 2	PO 10	10
	b)	Describe the characteristics of a weak manuscript.	CO 2	PO 10	10
UNIT - IV					
7	a)	Describe the criteria for patentability in India with suitable examples.	CO3	PO8	10
	b)	Interpret the differences between ‘Product Patent’ and ‘Process Patent’ with suitable examples.	CO3	PO8	10
OR					
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.	CO3	PO8	10
	b)	List and analyze the non – patentable entities in India.	CO3	PO8	10
UNIT - V					
9	a)	Enlist the various procedural steps involved in registering a trademark. Explain the steps in detail.	CO4	PO12	10
	b)	Enumerate the various procedural steps involved in registering a copyright. Explain the steps in detail.	CO4	PO12	10
OR					
10	a)	Federal registration of trademarks is a must for product manufacturing, why?	CO4	PO12	10
	b)	What is the concept of author and ownership of copyright? Explain three levels of remedies against infringement of copyright.	CO4	PO12	10
