



**Model Question Paper**  
**Second Semester MCA Degree Examination**  
**Research Methodology and IPR**

**Time: 3 Hours**

**Max. Marks: 100**

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. M: Marks, L: RBT (Revised Bloom's Taxonomy) level, C: Course outcomes.*

Module -1			M	L	C
Q1	a.	A researcher plans to investigate the impact of social media usage on academic performance among college students. However, the researcher strongly believes social media negatively affects learning. How do you think personal beliefs can influence the research process, and what strategies can the researcher apply to minimize bias and maintain scientific objectivity?	10	L3	CO1
	b.	A postgraduate student has selected a research topic but is unable to clearly identify the sequence of research steps. Illustrate how you would explain the importance of following a systematic research process, and how understanding each stage can improve the quality of research outcomes?	10	L3	CO1
<b>OR</b>					
Q2	a.	During your thesis defense, examiners ask you to justify your choice of methodology in a study involving employee motivation. How would you distinguish between research method and research methodology, and how would you justify your chosen approach having taken this scenario.	10	L3	CO1
	b.	A healthcare organization wants to study patient satisfaction with telemedicine services. Apply exploratory, descriptive, or diagnostic research for this study. Justify your choice and explain how it affects the research design.	10	L3	CO1
<b>Module- 2</b>					
Q3	a.	A university plans to improve student placement rates. Several issues have been identified: lack of technical skills, poor communication, and limited industry exposure. How would you define the research problem having this scenario in mind? Identify the different criteria you would use for selecting the research problem? What strategies would you use to obtain success rates in the given scenario?	10	L3	CO2
	b.	A researcher wants to study cybersecurity awareness among small business owners but finds the topic too broad. Illustrate how a literature review can help to refine the research problem and improve the formulation of research objectives. What do you think are the salient features one should consider while performing a literature review?	10	L3	CO2
<b>OR</b>					

Q4	a.	You are conducting research on AI adoption in education. Your supervisor asks you to formulate a hypothesis and lay down the expected research outcomes. How would you develop the hypotheses? Illustrate with a short brief on the practical significance of your study.	10	L3	CO2
	b.	A survey on consumer buying behavior produced incomplete responses from many participants. Identify possible non-sampling errors that may have occurred and suggest methods to reduce such errors in future studies.	10	L3	CO2
<b>Module - 3</b>					
Q5	a.	A startup wants to study customer retention but begins collecting data without defining a research design. Identify the challenges that can arise from the absence of a research design, and how can it affect validity and reliability?	10	L3	CO3
	b.	You are conducting a study on stress levels among IT professionals working in different companies. Show how would you design an appropriate sampling plan, and what factors would influence your selection of a sampling technique?	10	L3	CO3
<b>OR</b>					
Q6	a.	A retail company wants to track customer preferences over two years. How would you decide between cross-sectional and longitudinal research designs? Discuss the advantages and limitations of each.	10	L3	CO3
	b.	A public health survey shows unequal participation across age groups. How would sampling bias affect the research findings, and what corrective measures would you suggest?	10	L3	CO3
<b>Module - 4</b>					
Q7	a.	An organization wants to assess employee engagement after introducing flexible working hours. How would survey methods help in data collection, and under what circumstances would observation or experimentation become better alternatives?	10	L3	CO4
	b.	A software company wants to study productivity changes after implementing agile practices. Design a case study for this research, and discuss what sources of data would you use?	10	L3	CO4
<b>OR</b>					
Q8	a.	A market survey indicates improved customer loyalty after introducing mobile app-based offers, but responses vary across regions. Show how would you analyze and interpret conflicting research findings? Write down any other ways of improving customer loyalty apart from mobile app-based offers.	10	L3	CO4
	b.	Your team has completed a study on the impact of machine learning in fraud detection. Identify the importance of report writing in research, and explain how does it influence decision-making among stakeholders?	10	L3	CO4
<b>Module - 5</b>					
Q9	a.	Analyze the role of patents in promoting innovation in sectors such as biotechnology and software development. Show how do patents support research investments, and what limitations they may create?	10	L3	CO5
	b.	Different industries use intellectual property differently. Illustrate how copyrights, trademarks, and trade secrets create competitive advantages in media and technology industries.	10	L3	CO5
<b>OR</b>					

Q10	a.	Compare the implementation and effectiveness of intellectual property laws in emerging economies versus developed economies. What factors influence enforcement and commercial success of IP assets?	10	L3	CO5
	b.	Illustrate the importance of the Indian Patent Act in encouraging startups and innovation-driven businesses. How does patent protection contribute to economic growth and technological advancement?	10	L3	CO5

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