KUMARAGURU
college of technology
character is life

M. E / M. TECH / MCA DEGREE EXAMINATIONS: NOV/ DEC 2024

(Regulation 2024)

First Semester

COMMON TO CM /SE /EE / BT

24INT501: Research Methodology and IPR

COURSE OUTCOMES

CO1: Apply the scientific method and research planning steps to formulate research problems and objectives

CO2: Analyze different research designs and ethical considerations to classify research types and ensure ethical integrity

CO3: Evaluate the structure and components of research reports to organize and present research findings effectively

CO4: Interpret data collection tools and statistical methods to visualize and analyses biological research data

CO5: Create a research proposal incorporating IPR principles to develop innovative and ethically sound research plans

Time: Three Hours   **Maximum Marks: 100**

PART A (4*20 = 80 Marks)

1.	a)	Apply the term "hypotheses" in the context of research.	3	CO1	[K_3]
	b)	Identify the importance of research objectives.	4	CO1	[K_3]
	c)	Organize the significance of a literature search and review in establishing the theoretical framework for a study.	6	CO1	[K_3]
	d)	Construct how the scientific method guides the research process.	4	CO1	[K_3]
	e)	Solve: How do you select a problem for research?	3	CO1	[K_3]
2.	a)	Analyze the term 'sampling technique' in research.	3	CO2	[K_4]
	b)	Examine the purpose of pilot studies in research.	3	CO2	[K_4]
	c)	List the key features of a valid questionnaire?	4	CO2	[K_4]
	d)	Discover the importance of confidentiality in research ethics.	4	CO2	[K_4]
	e)	Distinguish how the choice of sampling technique affects the representativeness and reliability of research findings.	6	CO2	[K_4]
3.	a)	Explain the purpose of in-text citations in research writing.	2	CO3	[K_5]

	b)	Explain the difference between a case study and a review paper.	3	CO3	[K_5]
	c)	Compare the key differences between a thesis and a research article?	5	CO3	[K_5]
	d)	Interpret the significance of the CARS Model in structuring the literature review of a research paper. How does it help in presenting research findings effectively?	5	CO3	[K_5]
	e)	Determine How do referencing tools like Endnote and Mendeley enhance the quality of a research paper?	5	CO3	[K_5]
4.	a)	Analyze the purpose of clinical trials in data collection?	3	CO4	[K_4]
	b)	Distinguish the process of data management and preparation.	5	CO4	[K_4]
	c)	Examine how data visualization techniques can enhance the presentation of research findings.	6	CO4	[K_4]
	d)	Discover the importance of descriptive statistics in summarizing data and drawing conclusions from research findings.	6	CO4	[K_4]

Answer any ONE Question

PART B (1*20 = 20 Marks)

5.	a)	Discuss Intellectual Property Rights (IPR).	3	CO5	[K_6]
	b)	Developed dos and don'ts of writing a research proposal?	4	CO5	[K_6]
	c)	Construct the key considerations when finalizing research plans?	4	CO5	[K_6]
	d)	Elaborate the steps involved in writing a winning research proposal. What elements contribute to its success?	4	CO5	[K_6]
	e)	How does IPR protection contribute to the commercialization of research findings?	5	CO5	[K_6]

(OR)

6.	a)	Solve how the formulation of research questions impacts the direction and scope of a research study.	5	CO1	[K_3]
	b)	Analyze the ethical dilemmas that may arise during data collection and propose solutions.	5	CO2	[K_4]
	c)	Distinguish between mean, median, and mode.	5	CO4	[K_4]
	d)	Compile patents, trademarks, copyrights, and trade secrets.	5	CO5	[K_6]

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