

Seat No.:	Q. Paper Code: FTC-A-021			SET	A	
	Fabtech Technical Campus, College of Engineering & Research, Sangola					
	(An Autonomous Institute)					
	Mechanical Engineering, Computer Science & Engineering, Electronics & Telecommunication Engineering, Electrical Engineering, Geotechnical Engineering					
	Academic Year: - 2025-26, Semester-I					
Research Methodology and IPR (25PME11671)						
Regular End Semester Examination Winter 2025-26 [Dec./Jan]						
Class:	F. Y. M. Tech.	Day & Date:	Friday, 09/01/2026			
Duration:	03 Hrs.	Max. Marks:	60 Marks			
Time:	11:00 AM TO 02:00 PM					
Instructions:						
1) All Questions are compulsory. 2) Figures to the right indicate full marks. 3) Draw neat diagram wherever necessary. 4) Make suitable assumptions if necessary and state it clearly. 5) Use of non-programmable calculators is allowed.						
Q. No.	Questions			Marks	CO	BL
Q. 1	Attempt any two of the following			12		
1	How does knowing how research is done help in improving the quality and reliability of research outcomes?			6	1	4
2	Elaborate research process and what are the different criteria for good research?			6	1	3
3	Differentiate between research methods and research methodology. Why is this distinction important in conducting systematic research?			6	1	6
Q. 2	Attempt any two of the following			12		
1	Elaborate the methods to record and summarize the findings of literature survey.			6	2	4
2	Elaborate on the steps involved in defining research problems and what are the components of research problem?			6	2	4
3	What are primary and secondary sources for literature survey?			6	2	2
Q. 3	Attempt any two of the following			12		
1	Elaborate on different concepts associated with research design.			6	3	3

2	Explain the important concepts related to research design, such as control, extraneous variables, and confounding.	6	3	3
3	Evaluate exploratory, descriptive, and experimental research designs.	6	3	5
Q. 4	Attempt any two of the following	12		
1	Define data analysis. Explain the process of data analysis in research with suitable examples.	6	4	4
2	Describe various methods of data collection. Explain their advantages and limitations.	6	4	2
3	Explain the different types of data used in research. Discuss with suitable examples.	6	4	2
Q. 5	Attempt any two of the following	12		
1	Analyze how the key features of the Design Act, 2000 help in protecting industrial designs.	6	5	4
2	Write and explain the different types of Intellectual Property Rights with examples.	6	5	4
3	Explain what a trademark is and analyze how the key features of the Trademark Act, 1999 help protect businesses. Give suitable examples.	6	5	4