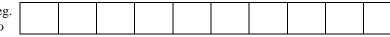
AY 21

QP Code: RD21BTECH349

Reg. No





GIET UNIVERSITY, GUNUPUR - 765022

B. Tech (Fifth Semester Regular) Examinations, December - 2023

21BMEOE35001 - Research Methodology

(Mechanical)

7	Time: 3 hrs	,	aximum	n: 70 M	arks	
P	(The figures in the right hand margin indicate marks) $PART-A \tag{2}$		$(2 \times 5 =$	$2 \times 5 = 10 \text{ Marks}$		
Q.1.	1. Answer <i>ALL</i> questions			CO#	Blooms Level	
a.	Distinguish between exploratory, descriptive, and explanatory Provide an example for each.	research appro	aches.	CO1	К3	
b.		selecting a su	uitable	CO1	K1	
c.	What considerations should be taken into account when designing a	questionnaire?		CO2	К3	
d.	What are the various Kinds of charts and diagrams which are used i	n data analysis?		CO3	K2	
e.	Describe the functions of the Department of Science and Technolog	y (DST) in Indi	a.	CO4	К3	
PA	ART – B		(15 x 4	= 60 N	(Iarks)	
Ans	nswer ALL questions		Marks	CO#	Blooms Level	
2. a	a. Elaborate on the ethical considerations researchers must take during the research process. Provide examples of ethical research.		7	CO1	К3	
b	b. How do identified gap areas influence the formulation of resear or hypotheses?	rch questions	8	CO4	K4	
	(OR)	avammlas of	7	CO1	K2	
C	c. Elaborate on the role of statistical analysis in research. Provide statistical techniques used in data analysis.	examples of	7	cor	IX2	
d	d. Elaborate on the ethical considerations researchers must take during the research process.	into account	8	CO4	К3	
3.a	.a. Compare and contrast the use of questionnaires and intervi-	iews in data	7	CO2	К3	
b	b. How does the choice of data processing methods impact researe Explain?	ch outcomes,	8	CO3	К3	
	(OR)					
C	c. How does a thorough literature review contribute to the development of the development	-	8	CO2	K2	
d	d. Write the challenges might researchers face in the data processing	g phase?	7	CO4	K4	
4.a	.a. Explain the difference between correlation and regression a suitable example.	analysis with	8	CO3	К3	
b	b. Define and compare the mean, median, and mode as measur tendency.	es of central	7	CO3	К3	
	(OR)					
C	c. Define simple linear regression and discuss its application	in predicting	8	CO3	К3	

outcomes.

d.	Analyze the importance of time series analysis in understanding trends and patterns in data.	7	CO3	К3
5.a.	How do different funding agencies, such as DST, DBT, AICTE, UGC, CSIR, ICMR, AAYUSH, and DRDO function in India, and what is their role in	10	CO4	К3
b.	supporting research? What is the process of writing a research project proposal, and what key components should be included to make it compelling?	5	CO4	K3
c.	How do funding agencies contribute to the development of research infrastructure in India, and what impact does it have on the research	10	CO4	K3
d.	landscape? How can researchers avoid plagiarism in their work, and what are the consequences of plagiarism in the academic and research community?	5	CO4	К3

--- End of Paper ---