

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)

CLASS: M.PHARM  
BRANCH: PHARMACY

SEMESTER : III  
SESSION : MO/2022

SUBJECT: MRM301T RESEARCH METHODOLOGY & BIostatISTICS

TIME: 3:00 Hours

FULL MARKS: 50

**INSTRUCTIONS:**

1. The missing data, if any, may be assumed suitably.
2. Before attempting the question paper, be sure that you have got the correct question paper.
3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
5. Answer any five questions.

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- Q.1(a) Differentiate qualitative and quantitative research. Discuss the two types of errors with examples [7]  
Q.1(b) What is the requirement of research design? Discuss the important concepts of research design [8]

- Q.2(a) Define the following terms: [7]  
Test statistics, critical region and critical value, significance level and tails in distribution, degree of freedom.  
Q.2(b) What are the advantages of blinding a study? Discuss the process of blinding a clinical trial. Discuss instances where blinding of the study may not be possible. [8]

- What is randomization? Discuss different techniques of randomization  
Q.3(a) Four individuals with high levels of cholesterol went on a special diet, avoiding high-cholesterol foods and taking special supplements. Their total cholesterol levels before and after the diet were as follows: [7]  
Before: 287, 305, 245, 309  
After: 245, 270, 235, 245  
Using the 0.05 level of significance, was there a significant decrease in cholesterol level?

- Q.4(a) The following data represents the number of hours 10 different students watched television during the weekend and the scores of each student who took a test the following Monday. Calculate the correlation coefficient  $r$ . [7]

Hours	0	1	2	3	3	5	5	6	7	10
Test score	96	85	82	74	92	68	76	58	65	50

- Q.4(b) What is the purpose of Medical Ethics Committee? Describe the composition and uses of Medical Ethics and explain types of Euthanasia [8]

- Q.5(a) 5a. What is Medical Ethics? Explain four basic Principles of Medical ethics with suitable examples [7]  
Q.5(b) 5b. Write short notes on a) Double effects b) Conflict of Interest c) Confidentiality d) Informed consent [8]

- Q.6(a) Explain guidelines for procurement of animals, Veterinary care and personal hygiene  
Q.6(b) Explain five ethical Principles adopted by CPCSEA for use of animals in scientific experiments

- Q.7(a) 7a. Describe detail about constitution, composition and functions of IAEC [7]  
Q.7(b) 7b. Describe detail about Quarantine, stabilization, separation and surveillance of animals in Animal house [8]

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