

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY

LONERE - RAIGAD - 402 103

Winter Semester Examination - January - 2023

Course: B. Pharm.	Semester: VIII
Subject: Biostatistics & Research Methodology	
Subject Code: BP801T	
Maximum Marks: 75	Duration: 3hrs
Date: 10.02.2023	Time: 2.00 PM to 05.00PM
<i>Instructions: i) All questions are compulsory</i>	
<i>ii) Figures to the right indicate full marks</i>	
<i>iii) Draw the diagrams or flow charts wherever necessary.</i>	

1. Objective Type Questions: (Answer all the questions) (10x2)=20

- What are descriptive statistics, what it includes? <https://pharmacyindia.co.in/>
- Justify need of design for experiment.
- Give any two absolute measures of dispersion.
- Explain the correlation and causation effect.
- What is cohort's studies, for what it is used for?
- What is regression analysis? differentiate simple and multiple regression.
- What are exhaustive cases? give exhaustive cases for 3 coins tossing.
- Define probability, 12 pillows in the bed, 6 are red, 4 are yellow and 2 are blue. What is the probability of picking a yellow pillow?
- Differentiate between parametric and non-parametric tests.
- What is blocking and confounding effect in factorials?

1. Long Answers: (Answer 2 out of 3) <https://pharmacyindia.co.in/> (2x10)=20

a) What is frequency distribution? explain all measures of central tendency and measures of dispersion with example.

b) What is correlation and causation effect? explain Karl Pearson's coefficient of correlation method.

c) Group of 5 students studying in physics, chemistry, and biology stream, using random method of sample selection an intelligence test was administered to them & the scores obtained as under-

S. No.	Physics	Chemistry	Biology
1	15	12	12
2	14	14	15
3	11	10	14
4	12	13	10
5	10	11	10

Justify null hypothesis that students do not differ in their intelligence

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2. Short Answers: (Answer 7 out of 9)

(7x5)=35

a) What is probability, random event, sample space, mutually exclusive events, and independent events? <https://pharmacyindia.co.in/>

b) What are distribution free tests, explain sign test and Wilcoxon signed rank test

c) What is sampling, its objectives and explain the importance of sampling in hypothesis testing

d) Elaborate on 't' test statistics for given data-

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Subjects	1	2	3	4	5	6	7	8	9	10	11
Test I Marks	3	3	3	12	15	16	17	19	23	24	32
Test II Marks	20	13	13	20	29	32	23	20	25	15	30

e) Distinguish between correlation and regression analysis and indicate the utility of regression analysis in pharmaceutical research.

f) What are advantages of factorial designs, explain 2^3 factorial designs.

g) Give importance of graphs in pharmaceutical research, explain Counter Plot graph

h) Explain the importance of statistical software's in pharmacy and describe SPSS.

i) Describe report writing procedures and presentation of data.

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