

School: SOMAHS	Level: Bachelor	Invigilator's Sign:
Program: B. Pharmacy	Year/Part: III/II	Superintendent's Sign:
Subject: Pharmaceutical Biostatistics and Research Methodology (BP 604)		Code No.

Code No.

GROUP A (Multiple-Choice Questions)

[10x1=10]

Time: 20 Minutes

- i This group contains 10 multiple-choice questions (MCQs).
- ii Answers must be marked on the MCQ Answer Sheet. Code No.:
- iii You may use the main answer sheet for rough work.
- iv Marks will not be awarded for answers with cutting, erasing, overwriting, or multiple shaded options.
- v The MCQ question paper must be returned along with the MCQ answer sheet.

- Which measurement of central tendency represents the most frequently occurring value in a data set?
 - a) Mean b. Median c. Mode d. Range
- If two events cannot occur at the same time, they are called:
 - a. Independent events b. Mutually exclusive events c. Dependent events d. Classical events
- A researcher collects data from a group of patients at a single point in time to find the prevalence of a disease. Which study design is this?
 - a) Cross-sectional study b. Case-control study
 - c. Cohort study d. Randomized controlled trial
- Selecting every kth individual from a sampling frame list is known as:
 - a) Simple random sampling b. Stratified random sampling
 - c. Systematic sampling d. Convenience sampling
- Which coefficient is calculated to check the internal consistency and reliability of a research questionnaire?
 - a. Pearson's "r" b. Cronbach's alpha c. Spearman's rho d. Chi-square
- Which statistical test is used to compare the means of two independent groups when the data is normally distributed?
 - a) Paired t-test b. Unpaired t-test c. One-way ANOVA d. Chi-square test
- Committing a Type I error means:
 - a) Rejecting a true null hypothesis b. Accepting a false null hypothesis.
 - c. Failing to reject a false null hypothesis d. Reducing the sample size
- When the value of one variable increases as the other variable increases, the correlation coefficient (r) will be:
 - a) Negative b. Zero c. Positive d. Undefined
- The primary ethical document that guides medical research involving human subjects is the:
 - a. Belmont Report b. Declaration of Helsinki c. Nuremberg Code d. Good Laboratory Practice guidelines
- Which of the following is a widely used free database for searching medical and pharmaceutical literature?
 - a) Turnitin b. SPSS c. PubMed d. EndNote

Multiple Choice Questions' Answer Sheet

Marks Secured: _____

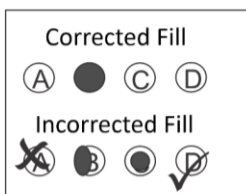
In Words: _____

Examiner's Sign: _____ Date: _____

Scrutinizer's Marks: _____

In Words: _____

Scrutinizer's Sign: _____ Date: _____



1. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	6. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
2. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	7. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
3. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	8. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
4. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	9. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
5. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	10. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D

Manmohan Technical University
Office of the Controller of Examinations
Exam Year: 2083, Ashar

School: SOMAHS	Level: Bachelor	Time: 3 Hours
Program: B.Pharmacy (M0del Questions)	Year/Part: III/II	Full Marks: 50
Subject: : Pharmaceutical Biostatistics and Research Methodology (BP 604)		

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

GROUP A (Multiple-Choice Questions are provided on separate sheet)

[10*1=10]

GROUP B (Problem Based Question)

[1*10=10]

1. A researcher wants to conduct a study on evaluation of the impact of different doses of *Curcuma longa* on antioxidant capacity in human subjects. Based on the given situation answer the following questions.

- a. What will be the appropriate study design to evaluate the impact of different doses of *Curcuma longa* on antioxidant capacity? (1)
- b. Write down the objectives and hypothesis for this study. (4)
- c. Write down the appropriate method of data analysis and appropriate test of difference. (2)
- d. What are the strengths and weaknesses of this study? (3)

[4*5=20]

GROUP C (Long Answer Questions – Attempt Any four Questions)

2. Calculate mean and standard deviation from the following data.

Income (Nrs.)	0-100	100-200	200-300	300-400	400-500	500-600	600-700
No of persons	5	7	12	17	14	8	7

3. Write down the properties of normal distribution.
4. Explain various types of research with examples.
5. Define Sampling. Explain types of probability sampling techniques with examples
6. Differentiate between Parametric and Non-parametric statistical tests. Under what specific data conditions would you choose a Mann-Whitney U test over an independent t-test and Kruskal Wallis test over One Way ANOVA?

GROUP D (Short Answer Questions – Attempt any Five)

[5*2 = 10]

1. State the Addition and Multiplication laws of probability.
2. Distinguish between Face Validity and Construct Validity of a data collection instrument.
3. What is a Gantt Chart, and why is it an indispensable component of a formal research proposal?

4. What constitutes Plagiarism in publication ethics? Write strategies a researcher can use to avoid it.
5. Briefly explain the concept and clinical significance of Relative Risk (RR) and Attributable Risk (AR)
6. What is Informed Consent, and why is it legally and ethically required in human research?

***** All the Best *****