

**B PHARM**  
**(SEM VIII) THEORY EXAMINATION 2022-23**  
**BIOSTATISTICS AND RESEARCH METHODOLOGY**

**Time: 3 Hours****Total Marks: 75****Note:** Attempt all Sections.**SECTION A**

- 1. Attempt all questions in brief. 10 x 2 = 20**
- a. Null hypothesis.
  - b. Define Karl Pearson's coefficient of correlation.
  - c. Confidence interval.
  - d. Write the applications of nonparametric tests.
  - e. Define degrees of freedom.
  - f. Define one-tailed and two-tailed tests.
  - g. What is Plagiarism?
  - h. Define the Power of a study.
  - i. Standard error of the mean and its significance?
  - j. Report writing in the research study.

**SECTION B**

- 2. Attempt any two parts of the following: 2 x 10 = 20**
- a. Define hypothesis? What are the different types of hypothesis? Explain how you will formulate a hypothesis with a suitable example.
  - b. Explain the types and advantages of factorial design in formulation development.
  - c. Describe the different measures of central tendency. Calculate the mean and standard deviation for the given data on the mid-arm circumference(cm) of 16 children—14, 12, 13, 10, 11, 13, 14, 12, 12, 11, 10, 13, 12, 11, 10, 14

**SECTION C**

- 3. Attempt any five parts of the following: 7 x 5 = 35**
- a. Classify different types of data; explain any three measures of dispersion with examples.
  - b. Discuss the hypothesis testing of parametric data.
  - c. Explain types of correlation and correlation coefficient. Give suitable examples.
  - d. Explain ANOVA and write its applications.
  - e. Define Plagiarism in Research? How to remove Plagiarism in a Research Paper?
  - f. What are non-parametric tests? Explain the chi-square test-Goodness of fit test.
  - g. Discuss the applications of EXCEL and SPSS programs in statistical analysis.