

Paper Id:

Roll No.

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

**Time: 3 Hours**

**Total Marks: 75**

**Note:** Attempt all Sections.

**SECTION A**

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**1. Attempt all questions in brief.**

**10 x 2 = 20**

- Null hypothesis.
- Define Karl Pearson's coefficient of correlation.
- Confidence interval.
- Write the applications of nonparametric tests.
- Define degrees of freedom.
- Define one-tailed and two-tailed tests.
- What is Plagiarism?
- Define the Power of a study.
- Standard error of the mean and its significance?
- Report writing in the research study.

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**SECTION B**

**2. Attempt any two parts of the following:**

**2 x 10 = 20**

- Define hypothesis? What are the different types of hypothesis? Explain how you will formulate a hypothesis with a suitable example.
- Explain the types and advantages of factorial design in formulation development.
- 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

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**SECTION C**

**3. Attempt any five parts of the following:**

**7 x 5 = 35**

- Classify different types of data; explain any three measures of dispersion with examples.
- Discuss the hypothesis testing of parametric data.
- Explain types of correlation and correlation coefficient. Give suitable examples.
- Explain ANOVA and write its applications.
- Define Plagiarism in Research? How to remove Plagiarism in a Research Paper?
- What are non-parametric tests? Explain the chi-square test-Goodness of fit test.
- Discuss the applications of EXCEL and SPSS programs in statistical analysis.

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