

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2023

(Regular/Improvement/Supplementary)

PSYCHOLOGY

GPSY4C08T: STATISTICAL TECHNIQUES FOR PSYCHOLOGY

Time: 2 Hours

Maximum Marks: 60

SECTION A: Answer the following questions. Each carries two marks.**(Ceiling 20 Marks)**

1. What is meant by ANOVA?
2. What does a goodness of test assess?
3. Mention two advantages of non-parametric tests.
4. Why, Wilcoxon's test is considered to be more powerful than sign test?
5. Distinguish between a 2^2 and 2^3 factorial experiments.
6. What is reliability? Mention the advantages of Kuder- Richardson's method.
7. In an ANOVA, the computed value of F is 1.86 and the critical table value is 19.4 at 0.04 level of significance. What will be the inference?
8. Calculate the number of runs: AAAABABABBBBBBABAAABABA.
9. Find the z-score if a student scored 90 in an examination. The class average is 87 with standard deviation 4.
10. In a two-way ANOVA, there are 5 rows and 4 columns. Find the degrees of freedom corresponding to total sum of squares and error sum of squares.
11. What do you mean by interaction in a factorial experiment?
12. Define T-scores and explain its uses.

SECTION B: Answer the following questions. Each carries five marks.**(Ceiling 30 Marks)**

13. Give the layout of one way ANOVA. How do you split the total variation in a one-way ANOVA?
14. The following table presents the results from an ANOVA, comparing 3 treatment conditions with $n=8$ participants in each condition. Complete the table.

Source	SS	df	MSS	F-ratio
Between treatments	-	-	15	-
Within treatments	-	-	-	
Total	93	---		

(PTO)

15. Briefly give the importance of chi square test as a non-parametric test. What are its assumptions?
16. To test the effectiveness of a vaccine against pandemic, the following table was obtained. Is the vaccine effective?

	Attacked	Not attacked
Vaccinated	28	155
Not vaccinated	138	286

17. Compare parametric and non-parametric tests with example.
18. What are the uses of factorial experiments?
19. Explain how you form a questionnaire.

SECTION C: Answer any *one* question. Each carries *ten* marks.

20. Explain how to find the independence of attributes and goodness of fit using chi square test.
21. Discuss Kruskal-Wallis's test and compare it with other sign tests.

(1 × 10 = 10 Marks)