

D 120598

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Name.....

Reg. No.....

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2025**

Statistics

STA 4C 02—STATISTICAL TECHNIQUES FOR PSYCHOLOGY

(2019—2023 Admissions)

Time : Two Hours

Maximum : 60 Marks

Section A*All questions can be attended.**Each question carries 2 marks.**Overall Ceiling 20.*

1. Write a short note on two- way ANOVA.
2. Define Critical difference.
3. What is degrees of freedom ?
4. What is an incomplete contingency table ?
5. What are the advantages of Non Parametric tests over Parametric tests ?
6. What is an experimental error ?
7. Define a treatment in reference to an experiment.
8. State the underlying assumptions for Wilcoxon signed rank test.
9. What is reliability of test scores in statistics ?
10. What adjustment has to be made for ties in Kruskal - Wallis Statistic ?
11. What is meant by a factorial experiment ?
12. What is meant by ratio scale ?

(Ceiling 20 marks)

Turn over

Section B

*All questions can be attended.
Each questions carries 5 marks.
Overall Ceiling 30.*

13. What do you understand by the test of goodness of fit ?
14. Following table provides data with regard to stature of the fathers and their first sons at the age of 25 years.

	Stature of Fathers			
		Tall	Short	Total
Stature of Sons	Tall	8	2	10
	Short	7	6	13
	Total	15	8	23

Test that the stature of sons is independent of the stature of the fathers.

15. What are the different scales of measurements ? Briefly explain each scale of measurements.
16. A personal trainer is interested in comparing the anaerobic thresholds of elite athletes. The following data are anaerobic thresholds for distance runners, distance cyclists, distance swimmers and cross-country skiers :

Distance Runners	Distance Cyclists	Distance Swimmers	Cross- Country Skiers
185	190	166	201
179	209	159	195
192	182	170	180
165	178	183	187
174	181	160	215

Is a difference in anaerobic thresholds among the different groups of elite athletes.

17. How can you perform ordinary sign test ?
18. What is meant by 2^3 factorial experiment ?
19. Give briefly the characteristics of a good questionnaire.

(Ceiling 30 marks)

Section C

*Answer any **one** question.
The question carries 10 marks.*

20. A reputed marketing agency in India has three different training programs for its salesmen. The three programs are Method - A, B, C. To assess the success of the programs, 4 salesmen from each of the programs were sent to the field. Their performances in terms of sales are given in the following table.

Salesmen	Methods		
	A	B	C
1	4	6	2
2	6	10	6
3	5	7	4
4	7	5	4

Test whether there is significant difference among methods and among salesmen.

21. (a) Explain Factorial experiments and their uses in Psychological studies.
(b) Write a short note on homogeneity of proportions.

(1 × 10 = 10 marks)