

C 25109

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Name.....

Reg. No.....

**FOURTH SEMESTER INTEGRATED P.G. DEGREE (REGULAR)  
EXAMINATION, APRIL 2022**

(For 2020 Admissions only)

M.A. Psychology (2000 Admissions only)

STA 4IC 02—STATISTICAL TECHNIQUES FOR PSYCHOLOGY

Time : Two Hours

Maximum : 60 Marks

*Use of calculator and Statistical table are permitted*

**Part A (Short answer type Questions)**

*Each question carries 2 marks.**Maximum marks that can be scored from this part is 20.*

1. What are the assumptions of ANOVA ?
2. Depict a one way ANOVA Table.
3. Briefly explain interval scale.
4. What are the applications of Chi-square distribution ?
5. Define reliability.
6. Write a short note on Run Test.
7. State the advantages of factorial design over simple experiment.
8. Define sign test.
9. Write down the test statistic for chi square test for goodness of fit.
10. What do you mean by a pilot survey ?
11. What are the assumptions of a non parametric test ?
12. What are different scales of measurement ?

(20 marks)

**Part B (Short essay/Paragraph type Questions)**

*Each question carries 5 marks.**Maximum marks that can be scored from this part is 30.*

13. Briefly explain validity of test scores.
14. What are the main steps in constructing a questionnaire ?

**Turn over**

15. Explain  $2^2$  factorial experiment with an example.
16. Briefly explain Kruskal-Wallis Test.
17. Using Sign test, test whether the median body length ( $\theta$ ) of frogs of a particular variety is  $H_0 : \theta_0 = 6.9$  cms against the alternative hypothesis  $H_1 : \theta_1 \neq 6.9$  with  $\alpha = 0.05$  on the basis of the following measurements :  
6.3, 5.8, 7.7, 8.5, 5.2, 6.7, 7.3, 5.6, 8.3, 7.7, 8.2, 6.0, 6.8, 6.9, 7.3, 7.0, 7.1, 6.6, 7.4
18. Apply ANOVA for one way classified data to test the significance of different groups.

Group		Measurements			
1	4	7	9	9	14
2	5	6	12	12	7
3	15	18	21	26	20
4	35	27	29	30	25
5	17	26	17	20	12

19. Two sample polls of votes for two candidates A and B for a public office are taken, from among the residents of the rural areas and urban areas. The results are given in the given table. Examine whether the nature of area is related to voting performance in this election.

Area	Votes for	
	A	B
Rural	620	380
Urban	550	450

(30 marks)

**Part C (Essay type Questions)***Answer any one question.**Maximum marks that can be scored from this part is 10.*

20. The following figures related to the number of units sold in five different areas by four salesmen :

Area	Number of Units			
	A	B	C	D
1	75	93	97	73
2	77	103	92	78
3	83	98	102	85
4	80	108	107	91
5	70	83	82	68

Perform a two way ANOVA to test the significance of the efficiency of the salesmen and significance of areas at 5% level of significance.

21. (a) How do you do the test procedure for independent of attributes using chi square test ?  
 (b) Explain the test procedure for chi square test for goodness of fit.

(1 × 10 = 10 marks)