

2024

(FYUGP)

(4th Semester)

PSYCHOLOGY

(Major)

Paper Code : C-PSY-08

(**Statistical Methods for Psychological
Research—II**)

Full Marks : 75
Pass Marks : 40%

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. (a) What is statistical inference? Explain its importance in the analysis of data. Differentiate between alternate hypothesis and null hypothesis. 2+5+8=15

Or

(b) Elaborate the meaning and use of standard error in statistics. Explain in detail the difference between one-tailed and two-tailed tests. 7+8=15

2. (a) What is student's t -distribution? Discuss the various assumptions for t -test for both independent groups and correlated groups. 3+12=15

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(Turn Over)

Or

(b) A researcher wishes to know if supplementing the diet with extra quantities of vitamin A makes a difference in ability to see under conditions of dim illumination. They randomly assign 14 subjects to one of two groups, and feed one group a normal diet and the other a normal diet plus supplementary vitamin A. After 1 week under this regimen, each individual is tested for visual acuity in conditions of dim illumination. Complete the test at the .05 level of significance and state your conclusion. 15

Supplementary Vitamin A (X)	Normal Diet (Y)
38	37
41	34
42	45
47	40
42	43
45	40
31	42

3. (a) What is ANOVA? Describe the various assumptions and steps involved in ANOVA for one-way classifications.

3+12=15

Or

- (b) Calculate a one-way ANOVA to determine if the mean exam scores of the three groups differ or not. 15

Group 1	Group 2	Group 3
85	91	79
86	92	78
88	93	88
75	85	94
78	87	92
94	84	85
98	82	83

4. (a) What are the importance, assumptions and types of chi-square? Elaborate in detail. 15

Or

- (b) What is categorical data? Among four brands of cola is there a difference in the proportion of consumer who prefers the taste of each. 15

	Brand A	Brand B	Brand C	Brand D
Observed frequency	20	31	28	21
Expected frequency	25	25	25	25

5. (a) Explain the difference between parametric and non-parametric tests. State the types of non-parametric tests and elaborate their uses and applications. 5+10=15

Or

- (b) What is SPSS? Elucidate its uses and importance in statistical and psychological research. 2+13=15

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