

**School of Liberal Education****Master of Arts in Applied Psychology  
Semester End Examination - Jun 2024****Duration : 180 Minutes  
Max Marks : 100****Sem II - K1PM201T - PSY5022 - Statistical Techniques in Psychology**General Instructions*Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Define variables view and data view in SPSS. K1(2)
- 2) In a study on self-esteem, the recorded scores were as follows: 25, 22, 27, 20, 24, 26, 23. Calculate the standard deviation for the self-esteem scores. K2(4)
- 3) Discuss main types of statistical tests used in psychology, such as t-tests and correlation? K2(6)
- 4) 2. Compute the coefficient of biserial correlation from the given data to know the extent to which success on a job is related to adjustment. K3(9)  
Scores on adjustment scale Success on job Failure on job  
95-99 1 0  
90-94 6 0  
85-89 18 1  
80-84 22 1  
75-79 31 3  
70-74 20 5  
65-69 18 9  
60-64 12 13  
55-59 6 10  
50-54 4 8  
45-49 1 5  
40-44 0 3  
35-39 1 0  
30-34 0 1
- 5) There were two items X and Y in a test which were responded by a sample of 200, given in the 2 X 2 table. Compute the phi coefficient of correlation between these two items. K3(9)

Item X

Yes No Total

Item Y Yes 55 (B) 45 (A) 100

No 35 (D) 65 (C) 100

Total 90 110 200

- 6) A researcher wants to examine the relationship between the ranks of anxiety levels and depression levels in a sample of 20 participants. The ranks of anxiety levels and depression levels are as follows:  
Anxiety Ranks: 4, 6, 2, 7, 5, 3, 1, 8, 10, 9, 12, 11, 14, 13, 16, 15, 19, 18, 17, 20  
Depression Ranks: 6, 5, 8, 3, 4, 1, 2, 7, 10, 9, 12, 11, 14, 13, 16, 15, 18, 17, 20, 19  
Calculate the Spearman's correlation coefficient for the ranks of anxiety levels and depression levels. K5(10)
- 7) 110 boys and 90 girls (total 200 students) were tested on an intelligence scale. Scores are arranged in the following table:  
Intelligence test Male Female  
100 – 109 4 4  
90 – 99 12 4  
80 – 89 13 7  
70 – 79 52 12  
40 – 49 10 10  
30 – 39 7 7  
20 – 29 4 8  
10 – 19 3 3  
Calculate rpbis from the above data and test the significance too. K4(12)
- 8) A researcher conducts an experiment with three conditions: control, treatment 1, and treatment 2. The researcher wants to compare the means of the three conditions. Discuss which statistical test would be appropriate to use in this scenario and why? K5(15)
- 9) Discuss the concept of one-tailed and two-tailed t-tests. When would you use each type of test in psychological research? K5(15)
- 10) A researcher wants to compare the average scores of three different groups (Group A, Group B, and Group C) on a psychological test. The data for the groups are as follows:  
Group A: 10, 12, 14, 15, 16  
Group B: 8, 9, 10, 12, 13  
Group C: 5, 7, 8, 9, 11  
Conduct a one-way ANOVA to determine if there are significant differences in the mean scores of the three groups. K6(18)