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End Semester Examination, December 2024

M.A. Applied Psychology – Ist Semester

STATISTICAL METHODS (HUAP509)

Time: 2.5 hrs.

Max Marks: **50**

Note: *All Questions are compulsory. Marks are indicated against each question.*

PART-A

Q.1 Attempt 5 out of 7 questions. Each question carries 2 marks.

2x5

- (a) What are the assumptions for carrying out Pearson Product Moment correlation. [CO-1] [L-1] **2**
- (b) Define homoscedasticity. [CO-1] [L-1] **2**
- (c) Briefly describe the concept of kurtosis. [CO-1] [L-1] **2**
- (d) Calculate the median – 10, 12, 7, 9, 11, 15, 13, 12, 17, 8 [CO-1] [L-3] **2**
- (e) Calculate Z score when $X = 45$, $M = 35$, and $SD = 2$. [CO-1] [L-3] **2**
- (f) Calculate range for the following data – 33,40,42,66,33,32,52,65. What does range signify? [CO-1] [L-3] **2**
- (g) What is a null hypothesis? What will be the directional alternate hypothesis for studying the relationship between stress and depression? [CO-1] [L-1] **2**

PART-B

Each question carries 10 marks. Attempt either alternative.

4x10

Q. 2. What is percentile? [CO-2] [L-3] **10**

For the given dataset, calculate 75th percentile. Interpret the results.

Scores: 35, 40, 45, 50, 55, 55, 60, 65, 70, 75, 80, 80, 85, 85, 90, 92, 95, 95, 98, 100

OR

(a) What are the assumptions of rank order correlation? (2) [CO-2] [L-3] **10**

(b) Calculate Rank order correlation for the given data: (8)

Scores on X : 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15

Scores on Y: 28, 21, 22, 22, 32, 36, 33, 39, 25, 30, 20, 28, 31, 38, 34

Q. 3. Explain the concept of central tendency. (5) [CO-3] [L-2] **10**

Which measure of central tendency is (a) the balance point? (b) best for qualitative data?

(c) most sensitive to extreme scores? (d) lowest in value in negatively skewed distributions? (e) sensitive to the value of all scores? (5)

OR

Who gave the concept of scales of measurement? Describe the various levels of measurement with suitable examples. [CO-3] [L-2] **10**

Q. 4. What are the characteristics of a normal probability curve (NPC)? How are standard scores related to the NPC? [CO-4] [L-2] **10**

OR

What is skewness? Describe the different types of skewed data. Mention a formula for calculating skewness. [CO-4] [L-2] **10**

Q.5. Explain the need for graphical representation of data. With examples, explain how graphs are used in psychology. [CO-5] [L-4] **10**

OR

Explain the importance of statistics in psychological research. Illustrate how descriptive and inferential statistics aid in psychological studies? [CO-5] [L-4] **10**