No. of Printed Pages: 3

# M. A. PSYCHOLOGY (MAPC)

## **Term-End Examination**

# June, 2024

## **MPC-006: STATISTICS IN PSYCHOLOGY**

Time: 2 Hours Maximum Marks: 50

Note: All Sections are compulsory. Use of simple calculator is permitted.

### Section—A

**Note**: Answer any *two* of the following in about 450 words each:  $2 \times 10 = 20$ 

- Discuss the assumptions of parametric and nonparametric statistics.
- Explain the concept of normal curve with the help of a diagram. Describe the characteristics of normal probability curve.

3. Compute ANOVA for the following data: 10

| Group A | 6 | 7 | 3 | 4 | 2 | 4 | 6 | 7 | 8 | 1 |
|---------|---|---|---|---|---|---|---|---|---|---|
| Group B | 4 | 7 | 3 | 4 | 7 | 3 | 2 | 7 | 4 | 2 |
| Group C | 3 | 6 | 2 | 6 | 8 | 6 | 3 | 9 | 6 | 3 |

Critical value: 3.35 at 0.05 level

5.49 at 0.01 level

4. Compute Chi-square for the following data: 10

| Responses  |       |        |           |        |  |  |  |  |  |
|------------|-------|--------|-----------|--------|--|--|--|--|--|
| Categories | Never | Rarely | Sometimes | Always |  |  |  |  |  |
| Group A    | 10    | 12     | 8         | 10     |  |  |  |  |  |
| Group B    | 6     | 4      | 7         | 3      |  |  |  |  |  |
| Group C    | 11    | 9      | 4         | 6      |  |  |  |  |  |
| Group D    | 7     | 3      | 4         | 6      |  |  |  |  |  |

#### Section—B

**Note**: Answer any **four** of the following in about **250** words each:  $4\times6=24$ 

5. Compute Spearman's rho for the following data:

| Data A | 16 | 17 | 4  | 6 | 7 | 5 | 10 | 2 | 3 |
|--------|----|----|----|---|---|---|----|---|---|
| Data B | 18 | 19 | 21 | 4 | 7 | 8 | 9  | 6 | 2 |

| 6. | Compute | Mann-Whitney | U | for | the | following |
|----|---------|--------------|---|-----|-----|-----------|
|    | data:   |              |   |     |     | 6         |

| Group A | 7 | 6 | 3 | 2  | 14 | 6 | 10 |
|---------|---|---|---|----|----|---|----|
| Group B | 7 | 8 | 1 | 13 | 4  | 7 | 9  |

7. Elucidate part correlation.

6

- 8. Explain the concept, merits and demerits of two-way ANOVA.
- 9. Explain the measures of central tendency and measures of dispersion. 3+3

#### Section—C

**Note**: Write short notes on any two of the following in about **100** words each:  $2\times 3=6$ 

- 10. Level of significance 3
- 11. Kruskal-Wallis ANOVA test 3
- 12. Standard error 3