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(2nd Semester)

PSYCHOLOGY

Paper : Psy–201

(Statistics in Psychology)

Full Marks : 70   Pass Marks : 45%

Time : 3 hours

(PART : B—DESCRIPTIVE)

(Marks : 45)

The figures in the margin indicate full marks for the questions

1. (a) Define statistics. What is the importance of statistics in Psychology? Describe the purpose of descriptive and inferential statistics.   2+3+4=9

Or

(b) What is a variable? Construct a frequency distribution table (grouped data) and extend it to a cumulative frequency distribution by using a class interval of 5. Illustrate from the 30 scores indicated below :   1+8=9

36, 41, 38, 1, 7, 12, 16, 21, 26, 32, 29, 31, 23, 9, 14, 3, 42, 38, 41, 29, 2, 1, 6, 8, 22, 24, 28, 26, 49, 42

2. *(a)* What is meant by central tendency? Find the median of the following ungrouped data :

$$25, 1, 11, 20, 8, 6, 30, 2, 15$$

Calculate the mean from the following data : 1+3+5=9

Score	F
35–39	3
30–34	10
25–29	1
20–24	6
15–19	4
10–14	3
5–9	4
0–4	9

Or

(b) Compute standard deviation for ungrouped and grouped data from the following distribution : 3+6=9

Ungrouped data

5, 10, 15, 30, 14

Grouped data

Score	F
22–24	4
19–21	5
16–18	2
13–15	1
10–12	2
7–9	0
4–6	2
1–3	4

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3. *(a)* Discuss in detail the nature of normal probability curve. Assuming normality, in psychology test, the mean is 40 and standard deviation is 5, find out the following :

   (i) How many students scored below the percentage of 30?

   (ii) How many students scored above the percentage of 45?   4+5=9

   Or

   (b) Define and explain standard score. Assuming normal distribution Mean = 80 and SD = 20, find the following :

   (i) What limit will include the lowest 10%?

   (ii) What limit will include the middle 60%?   3+6=9

4. *(a)* Explain positive correlation and negative correlation. Write a note on coefficient of correlation and the cautions concerning correlation coefficients.   3+6=9

   Or

   (b) Calculate Pearson's coefficient using deviation score method :   9

Students	X	Y
A	23	20
B	22	19
C	17	30
D	18	23
E	30	28

5. *(a)* Illustrate the methods and general rules for drawing a graph. Calculate the following and construct a pie chart : 5+4=9

Sports	Students preference
Football	9
Volleyball	4
Tennis	4
Cricket	7
Basketball	6

Or

(b) Explain in detail cumulative percentage curve. How is it constructed? Define bar diagram and construct a bar diagram from the following data : 4+5=9

Subjects	No. of students
English	600
History	400
Political Science	750
Sociology	370
Economics	500

The above data are taken from a college who opted as their favourite subjects.

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(2nd Semester)

PSYCHOLOGY

Paper : Psy-201

(Statistics in Psychology)

(PART : A—OBJECTIVE)

(*Marks* : 25)

The figures in the margin indicate full marks for the questions

SECTION—I

(*Marks* : 15)

A. Choose the correct answer by putting a Tick (✓) mark in the brackets provided : 1×10=10

1. A variable that can take on only certain values is

   (a) continuous variable ( )

   (b) discrete variable ( )

   (c) independent variable ( )

   (d) dependent variable ( )

2. Percentile ranks may take values only between

   (a) 10–1000   ( )

   (b) 100–1000   ( )

   (c) 0–1   ( )

   (d) 0–100   ( )

3. The average squared deviation from the mean is

   (a) range   ( )

   (b) variance   ( )

   (c) quartile deviation   ( )

   (d) median   ( )

4. Find the mode of ungrouped data 22, 18, 17, 3, 2, 17, 18, 17, 5, 17.

   (a) 5   ( )

   (b) 17   ( )

   (c) 10   ( )

   (d) Invalid   ( )

5. Normal distribution curve is also known as Gaussian distribution after

   (a) De Moivre   ( )

   (b) Karl Pearson   ( )

   (c) Carl Friedrich   ( )

   (d) Francis Galton   ( )

6. Which of the following is false about normal curve?

   (a) It is bell-shaped ( )

   (b) It is not a continuous distribution ( )

   (c) It is a unimodel distribution ( )

   (d) It is a symmetrical distribution ( )

7. $\pm 1 \cdot 00$ is an indication of

   (a) high correlation ( )

   (b) no correlation ( )

   (c) equal correlation ( )

   (d) perfect correlation ( )

8. The relationship between two variables which can best be represented by a straight line is

   (a) scatter diagram ( )

   (b) linear relationship ( )

   (c) bivariate relationship ( )

   (d) partial relationship ( )

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9. Column diagram is also known as

    (a) pie chart   ( )

    (b) ogive   ( )

    (c) histogram   ( )

    (d) bar diagram   ( )

10. Which curve never have a negative slope (never come down)?

    (a) Bar diagram   ( )

    (b) Frequency polygon   ( )

    (c) Cumulative percentage curve   ( )

    (d) Pie chart   ( )

B. Match the following and write the correct codes of Column—II in the brackets provided :   1×5=5

Column—I		Column—II
1. Percentile	( )	(a) Symbol Q letter
2. Semi-inter quartile	( )	(b) Mean = Median = Mode
3. Normal distribution	( )	(c) S-shaped
4. Correlation	( )	(d) Centrum
5. Ogive	( )	(e) Relationship of two or more variables

SECTION—II

(*Marks* : 10)

C. Answer the following short questions :　　2×5=10

1. Discuss any two measures of variability.

2. Define measurement. Mention the four scales of measurement.

3. What is the difference between kurtosis and skewness?

4. Write a note on no correlation.

5. Define histogram and frequency polygon.

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