

2 0 1 4

EDUCATION

(Major)

Paper : 5.5

Full Marks : 60

Time : 3 hours

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

1. Answer the following : 1×7=7
- (a) Define mean.
 - (b) What is data?
 - (c) Define arithmetic mean. (AM).
 - (d) What is discrete data?
 - (e) Define percentile rank.
 - (f) What is positive correlation?
 - (g) Define quartile deviation.
2. Answer the following as directed : 2×4=8
- (a) Classify the variables (i) height, (ii) intelligence score, (iii) weight, and (iv) scores into continuous and discrete series of an achievement test.
 - (b) Point out the range (lower limit to upper limit) of the following scores belonging to a continuous series :

14, 22, 46, 72

- (c) The mean can be determined by the formula, $M = \text{---}$. (Fill in the blank)
- (d) Find the average deviation of the scores 15, 10, 6, 8, 11 of a series.
3. Answer any *three* of the following : $5 \times 3 = 15$
- (a) Define median. When do we use median?
- (b) Discuss different types of non-normal distribution.
- (c) Discuss the process of computation of standard deviation by taking an example from an ungrouped data.
- (d) What is linear correlation? Discuss its types.
- (e) Given, mean = 49.5 and SD = 10. Change the score of 80 into Z score.
4. Answer any *three* of the following : $10 \times 3 = 30$
- (a) Compute the median from the following frequency distribution :

| Scores | f |
|--------|----------|
| 70-71 | 2 |
| 68-69 | 2 |
| 66-67 | 3 |
| 64-65 | 4 |
| 62-63 | 6 |
| 60-61 | 7 |
| 58-59 | 5 |
| 56-57 | 1 |
| 54-55 | 2 |
| 52-53 | 3 |
| 50-51 | 1 |
| | <hr/> |
| | $N = 36$ |

- (b) Compute the standard deviation from the following distribution :

| Scores | <i>f</i> |
|---------|----------|
| 125-129 | 1 |
| 120-124 | 5 |
| 115-119 | 7 |
| 110-114 | 6 |
| 105-109 | 9 |
| 100-104 | 9 |
| 95-99 | 6 |
| 90-94 | 4 |
| 85-89 | 1 |
| 80-84 | 1 |
| | <hr/> |
| | $N = 49$ |

- (c) Find rank correlation coefficient from the following data and interpret the results :

| | | | | | | | | | |
|-------------------------|---|----|----|----|----|----|----|----|----|
| <i>Individuals</i> | : | A | B | C | D | E | F | G | H |
| <i>Marks in Hindi</i> | : | 30 | 40 | 50 | 20 | 10 | 45 | 22 | 18 |
| <i>Marks in English</i> | : | 55 | 75 | 60 | 12 | 11 | 38 | 25 | 15 |

- (d) Given a normal distribution with a mean of 50 and SD of 15.

- (i) What percent of the cases will be between 40 and 47?
- (ii) What percent of the groups is expected to have scores greater than 68?

(e) Compute the values of the following from the data given below :

(i) P_{30} and P_{70}

(ii) Percentile rank of the scores 14 and 26

| Scores | f |
|--------|----------|
| 37-39 | 2 |
| 34-36 | 10 |
| 31-33 | 15 |
| 28-30 | 19 |
| 25-27 | 16 |
| 22-24 | 8 |
| 19-21 | 9 |
| 16-18 | 7 |
| 13-15 | 3 |
| 10-12 | 1 |
| | $N = 90$ |

(f) Plot frequency polygon from the following data :

| Scores | f |
|--------|----------|
| 75-79 | 1 |
| 70-74 | 3 |
| 65-69 | 5 |
| 60-64 | 8 |
| 55-59 | 11 |
| 50-54 | 18 |
| 45-49 | 10 |
| 40-44 | 8 |
| 35-39 | 6 |
| 30-34 | 5 |
| | $N = 75$ |
