

## C 2501

B.C.A. (Three Year) DEGREE EXAMINATION, MARCH/APRIL 2017.

(End Semester Examination)

Second Semester

Part II

STATISTICAL METHODS AND THEIR APPLICATIONS

*Time : 3 Hours*

*Max. Marks : 70*

### PART — A

Answer any FIVE of the following questions. **(5 × 4 = 20 Marks)**

1. Explain the methods of collecting primary data.
2. What do you mean by false base line? When it is used?
3. What are different types of averages?
4. Discuss main properties of geometric mean.
5. Explain merits or uses of range.
6. State the relative measures of skewness.
7. What is linear and non-linear correlation?
8. Distinguish between primary and secondary data.

### PART — B

Answer ALL the following questions. **(5 × 10 = 50 Marks)**

9. (a) Present the data by multiple bar diagram.

	No. of students		
Course	2014	2015	2016
B.A.	420	320	380
B.C.A.	200	240	360
B.B.M.	140	300	480

Or

- (b) What is the importance of diagrammatic and graphic representation of data?

Turn Over

10. (a) Find mode ( $Z$ ) for the following data :
- |       |     |      |       |       |       |       |       |       |
|-------|-----|------|-------|-------|-------|-------|-------|-------|
| $x$ : | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 |
| $f$ : | 2   | 3    | 10    | 16    | 17    | 8     | 4     | 1     |

Or

- (b) Compute the geometric mean for the given data :
- |       |      |       |       |       |       |
|-------|------|-------|-------|-------|-------|
| $x$ : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| $f$ : | 10   | 5     | 8     | 7     | 20    |

11. (a) Compute mean deviation and its co-efficient.
- |       |         |         |         |         |         |
|-------|---------|---------|---------|---------|---------|
| $x$ : | 100-120 | 120-140 | 140-160 | 160-180 | 180-200 |
| $f$ : | 4       | 6       | 8       | 10      | 5       |

Or

- (b) Compute standard deviation and its co-efficient.
- |       |      |       |       |       |       |
|-------|------|-------|-------|-------|-------|
| $x$ : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| $f$ : | 5    | 15    | 30    | 65    | 80    |

12. (a) From the following calculate Bowley's coefficient of skewness from the following data:
- |                      |       |       |       |       |       |
|----------------------|-------|-------|-------|-------|-------|
| Profit (in crores) : | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| No. of companies :   | 15    | 20    | 30    | 10    | 5     |

Or

- (b) Calculate Karl Pearson's coefficient of skewness from the data given below :
- |                     |    |    |    |    |    |    |     |
|---------------------|----|----|----|----|----|----|-----|
| Marks (less than) : | 20 | 30 | 40 | 50 | 60 | 70 | 80  |
| No. of students :   | 10 | 25 | 40 | 65 | 80 | 85 | 100 |

13. (a) Calculate Karl Pearson's coefficient of correlation for the data :
- |               |    |    |    |    |    |    |    |    |    |
|---------------|----|----|----|----|----|----|----|----|----|
| Mathematics : | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| Statistics :  | 16 | 20 | 23 | 25 | 33 | 38 | 46 | 50 | 55 |

Or

- (b) Calculate coefficient of rank correlation from the following data :
- |       |    |    |    |   |    |    |    |    |    |    |
|-------|----|----|----|---|----|----|----|----|----|----|
| $X$ : | 48 | 33 | 40 | 9 | 16 | 16 | 65 | 24 | 16 | 57 |
| $Y$ : | 13 | 13 | 24 | 6 | 15 | 4  | 20 | 9  | 9  | 19 |