Code No. 3510 / E

## FACULTY OF COMMERCE

### B.Com. (CBCS) III – Semester Examination, December 2017

**(Common Paper for General/Computers/Computer Applications/
Advertising/Foreign Trade and Tax Procedure Courses)**

### Business Statistics – I

### Paper Code-BC-306

Time : 3 hours

Max. Marks : 80

### Part – A (5 X 4 = 20 Marks)
**Note : Answer any Five of the following questions.**

1  Define the term 'Statistics' in plural sense.
2  Limitations of statistics
3  Functions of Diagrams.
4  The mean of the following series is Rs.115.86. Find the missing figure.

| House Rent (Rs.) : | 110 | 112 | 113 | 117 | ? | 125 | 128 | 130 |
|---|---|---|---|---|---|---|---|---|
| No. of Houses | 25 | 17 | 13 | 15 | 14 | 8 | 6 | 2 |

5  Calculate the Harmonic mean from the following data.

| x | 10 | 12 | 14 | 16 | 18 | 20 |
|---|---|---|---|---|---|---|
| f | 5 | 18 | 20 | 10 | 6 | 1 |

6  Find out the value of quartile deviation from the following data.

| Roll No : | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Marks : | 30 | 42 | 60 | 18 | 45 | 24 | 75 |

7  In a certain distribution the following results were obtained.
Mean = 45   Median = 48, Karl Pearson co-efficient of skewness = -0.4, Calculate the value of standard deviation.

8  Types of correlation

### Part – B (5 X 12 = 60 Marks)
**Note : Answer the following questions not exceeding FOUR pages each.**

9  a) Define statistics and explain its scope and importance.

**OR**

b) Define sampling. Discuss various sampling techniques.

10 a) The following table shows the results of B.Com. students of a university for the last three years. Represent the same by a multiple bar diagram.

Exam Results of B.Com students

| Year | I Division | II Division | III Division | Failed |
|---|---|---|---|---|
| 2014 | 50 | 150 | 250 | 150 |
| 2015 | 60 | 200 | 300 | 140 |
| 2016 | 50 | 250 | 350 | 150 |

**OR**

...2.

b) The following table shows the marks obtained by students in a class

| Marks : | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
|---------|-------|-------|-------|-------|-------|-------|-------|
| No. of Students: | 3 | 10 | 14 | 24 | 17 | 14 | 3 |

11 a) Calculate median from the following data.

| Marks | above 20 | above 30 | above 40 | above 50 | above 60 | above 70 | above 80 | above 90 |
|-------|----------|----------|----------|----------|----------|----------|----------|----------|
|  | 200 | 195 | 177 | 157 | 142 | 124 | 84 | 16 |

**OR**

b) Calculate mode from the following data :

| Marks : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
|---------|------|-------|-------|-------|-------|-------|-------|
| Frequency : | 5 | 15 | 20 | 20 | 32 | 14 | 14 |

12 a) From the following data calculate mean deviation from the median.

| C.I. | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 41-45 | 46-50 | 51-55 | 56-60 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Frequency : | 8 | 15 | 13 | 20 | 11 | 7 | 3 | 2 | 1 |

**OR**

b) A firm which was carrying on business from 1st January 2015 gets itself incorporated as a company on 1st May 2015. the first accounts are drawn up

| C.I. | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-100 |
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Frequency : | 3 | 5 | 7 | 10 | 12 | 15 | 12 | 6 | 2 | 8 |

13 a) Calculate Karl Pearson's co-efficient of correlation from the following data :

| x | 3 | 4 | 6 | 7 | 10 |
|---|---|---|---|---|----|
| f | 9 | 11 | 14 | 15 | 16 |

**OR**

b) From the following data calculate rank correlation.

| x : | 20 | 25 | 60 | 45 | 80 | 25 | 55 | 65 | 25 | 75 |
|-----|----|----|----|----|----|----|----|----|----|----|
| f : | 45 | 50 | 55 | 50 | 60 | 70 | 72 | 78 | 80 | 63 |

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b) The following table shows the marks obtained by students in a class

| Marks : | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
|---|---|---|---|---|---|---|---|
| No. of Students: | 3 | 10 | 14 | 24 | 17 | 14 | 3 |

Present the data in the form of a Histogram.

11 a) Calculate median from the following data.

| Marks | above 20 | above 30 | above 40 | above 50 | above 60 | above 70 | above 80 | above 90 |
|---|---|---|---|---|---|---|---|---|
| | 200 | 195 | 177 | 157 | 142 | 124 | 84 | 16 |

OR

b) Calculate mode from the following data :

| Marks : | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
|---|---|---|---|---|---|---|---|
| Frequency : | 5 | 15 | 20 | 20 | 32 | 14 | 14 |

12 a) From the following data calculate mean deviation from the median.

| C.I. | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 41-45 | 46-50 | 51-55 | 56-60 |
|---|---|---|---|---|---|---|---|---|---|
| Frequency : | 8 | 15 | 13 | 20 | 11 | 7 | 3 | 2 | 1 |

OR

b) Calculate Karl Pearson's co-efficient of skewness for the following data :

| C.I. | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-100 |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency : | 3 | 5 | 7 | 10 | 12 | 15 | 12 | 6 | 2 | 8 |

13 a) Calculate Karl Pearson's co-efficient of correlation from the following data :

| x | 3 | 4 | 6 | 7 | 10 |
|---|---|---|---|---|---|
| f | 9 | 11 | 14 | 15 | 16 |

OR

b) From the following data calculate rank correlation.

| x : | 20 | 25 | 60 | 45 | 80 | 25 | 55 | 65 | 25 | 75 |
|---|---|---|---|---|---|---|---|---|---|---|
| f : | 45 | 50 | 55 | 50 | 60 | 70 | 72 | 78 | 80 | 63 |

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