MS – 479

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# II Semester B.B.A. Examination, May 2016
## (CBCS) (Fresh + Repeaters) (Semester Scheme) (2014-15 and Onwards)
## BUSINESS ADMINISTRATION
## Paper – 2.4 : Quantitative Methods for Business – II

Time : 3 Hours Max. Marks : 70

***Instruction*** *: Answers should be written in* ***English*** *only.*

### SECTION – A

1. Answer **any five** sub-questions. **Each** sub-question carries **2** marks. **(5×2=10)**

   a) Give the meaning of the term statistics.

   b) Why do you call Fishers index number as ideal ?

   c) What is a histogram ? When do you use it ?

   d) Under what circumstances it would be appropriate to use median ?

   e) Mention any four properties of a good measure of dispersion.

   f) Interpret when it is (a) – 0.25 (b) + 0.95 (c) + 1 (d) + 0.58.

   g) Find the probable error when N = 46, r = 0.80.

### SECTION – B

Answer **any three** questions. **Each** question carries **6** marks. **(3×6=18)**

2. Distinguish between classification and tabulation. Mention the different types of classification.

3. Briefly explain the limitations of statistics.

4. In a state there are 30 lakh people, out of this 10 lakh people live in urban areas and the rest in rural areas. In urban areas there are 7 lakh male people out of which 2.5 lakh are illiterate. In urban areas 2 lakh ladies are illiterate. In rural areas there are 15 lakh male people out of which 5 lakh are literate. In rural areas literate ladies are 3 lakh.

   Tabulate the above information.

**P.T.O.**

5. Calculate upper quartile from the following data :

| **Income in Rs. :** | Less than 2,000 | 4,000 | 6,000 | 8,000 | 10,000 | 10,000 & above |
|---|---|---|---|---|---|---|
| **No. of persons :** | 25 | 65 | 150 | 225 | 241 | 257 |

6. Given :

| | **Series X** | **Series Y** |
|---|---|---|
| **Mean** | 18 | 100 |
| **Standard Deviation** | 14 | 20 |

Co-efficient of correlation between X and Y is 0.8. Find out the most probable value of Y when X is 70.

## SECTION – C

Answer **any three** questions from the following. **Each** question carries **14** marks. **(3×14=42)**

7. The following table gives the age distribution of boys and girls in a school. Find which group is more variable in age.

| **Age (in Years)** | **No. of Boys** | **No. of Girls** |
|---|---|---|
| 13 | 12 | 18 |
| 14 | 15 | 12 |
| 15 | 15 | 10 |
| 16 | 05 | 06 |
| 17 | 03 | 04 |

8. Calculate Karl Pearson's co-efficient of skewness for the following distribution.

| Monthly Salary in Rs. | No. of Persons |
|---|---|
| 400 – 600 | 04 |
| 600 – 800 | 10 |
| 800 – 1000 | 19 |
| 1000 – 1200 | 12 |
| 1200 – 1400 | 04 |
| 1400 – 1600 | 01 |

9. Calculate Fisher index number from the data given below and show that it satisfies the time reversal and factor reversal tests.

| Commodities | Base Year | | Current Year | |
|---|---|---|---|---|
| | Price | Qty. | Price | Qty. |
| A | 6 | 50 | 10 | 56 |
| B | 2 | 100 | 2 | 120 |
| C | 4 | 60 | 6 | 60 |
| D | 10 | 30 | 12 | 24 |
| E | 8 | 40 | 12 | 36 |

10. Following data relates to years of service in a factory of seven persons and their monthly income.

| Years of Service : | 11 | 7 | 9 | 5 | 8 | 6 | 10 |
|---|---|---|---|---|---|---|---|
| Income Monthly in '000' Rs. : | 7 | 5 | 3 | 2 | 6 | 4 | 8 |

Obtain two regression equations and also estimate the income of a person of 12 years of service.

11. Calculate Median, upper quartile, lower quartile and quartile deviation from the following data :

| **Income in Rs.** | **No. of Employees** |
|---|---|
| Less than 500 | 08 |
| Less than 1,000 | 26 |
| Less than 1,500 | 42 |
| Less than 2,000 | 54 |
| Less than 2,500 | 79 |
| Less than 3,000 | 83 |
| Less than 3,500 | 110 |
| Less than 4,000 | 132 |
| Less than 4,500 | 146 |
| Less than 5,000 | 150 |