

**FYBSC CS/SEM II/REG/ Descriptive Statistics****Time: 1 hr.****Marks:30****Note:**

1. All questions are compulsory with internal choice.
2. Draw neat diagrams wherever necessary.
3. Figures to the right indicate full marks.
4. Use of scientific calculator fx 82 series and below is only allowed.
5. Each question carry 15 Marks.

**Q.1 Attempt any TWO****[15]**

- (a) Write a short note on different Types of Scales with suitable diagram.
- (b) Find standard deviation, variance, coefficient of standard deviation and coefficient of variance.

|                |        |         |         |         |         |
|----------------|--------|---------|---------|---------|---------|
| Class Interval | 0 - 10 | 10 - 20 | 20 - 30 | 30 - 40 | 40 - 50 |
| Frequency      | 4      | 10      | 22      | 12      | 2       |

- (c) Determine  $D_7$  and  $P_{31}$  for grouped data:

|                |        |         |         |         |         |         |
|----------------|--------|---------|---------|---------|---------|---------|
| Class Interval | 0 - 10 | 10 - 20 | 20 - 30 | 30 - 40 | 40 - 50 | 50 - 60 |
| Frequency      | 5      | 15      | 30      | 25      | 10      | 5       |

- (d) Write a short note on Skewness and Kurtosis with suitable diagram

**Q.2 Attempt any TWO****[15]**

- (a) From the following data, find the equations of regression line of y on x and hence estimate y when  $x = 2.4$ .

|   |   |   |    |    |     |
|---|---|---|----|----|-----|
| x | 1 | 2 | 3  | 4  | 5   |
| y | 1 | 8 | 27 | 64 | 125 |

- (b) Calculate Pearson's correlation coefficient for the following data:

|   |   |   |   |   |    |
|---|---|---|---|---|----|
| x | 2 | 3 | 5 | 6 | 9  |
| y | 5 | 3 | 4 | 6 | 12 |

- (c) Distinguish between correlation and regression.
- (d) Fit the following data for  $z = ax + by + c$ , hence find x when  $x = 6$  and  $y = 8$ .

|   |   |   |    |    |
|---|---|---|----|----|
| x | 2 | 5 | 7  | 11 |
| y | 3 | 6 | 10 | 12 |
| z | 1 | 3 | 6  | 10 |

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