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**D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1**

**SEMESTER EXAMINATIONS**

 **NOVEMBER - 2017 15CCO3D**

 **ELECTIVE Ι :BUSINESS STATISTICS AND OPERATIONAL RESEARCH - Ι**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***Time : 3 Hrs Max.Marks : 75

SECTION-A (10 x 2 =20)

 **Answer ALL the questions.**

1. Define the term Statistics.
2. What do you mean by Primary data?
3. Calculate median marks from the following data.

35, 46, 29, 57, 60, 73, 20, 59, 50, 70

1. What do you mean by Tabulation?
2. Calculate Standard Deviation from the following data.

39, 46, 52, 75, 82, 93, 97

1. Calculate quartile deviation from the following data.

25, 15, 30, 45, 40, 20, 50

1. Define Skewness.
2. Calculate Karl Pearson’s co-efficient of skewness.

40, 36, 42, 53, 20, 65, 67, 20, 36

1. What is operation research?
2. What is meant by linear programming?

SECTION-B (5 x 5 =25)

 **Answer any FIVE of the following questions.**

1. What are the sources of secondary data? Explain.
2. Calculate Arithmetic mean of the weight of ten students in a class.

 Weight. (in kgs).

 42, 56, 49, 50, 49, 53, 52, 48, 47, 54

1. Given the numbers:

 15, 19, 26, 42, 5, 10

 Calculate Harmonic mean?

1. Find median and mean deviation?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| X | 0 -10 | 10 - 20 | 20 - 30 | 30 - 40 | 40 - 50 | 50 - 60 |
| F |  5 |  10 |  13 |  18 |  14 |  8 |

1. If Q=15, Q2=28, Q3=40 find the co-efficient of Quartile deviation.
2. Explain the scope and importance of operation Research.
3. Karl Pearson’s Co-efficient of Skewness of a distribution is 0.4 Its S.D is 6.5 and mean 29.6 find the

 mode and median of the distribution.

1. From the following data, find out mode:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CI | 3 - 4 | 4 - 5 | 5 - 6 | 6 - 7 | 7 - 8 | 8 - 9 | 9 -10 |
| F |  83 |  27 |  25 |  50 |  75 |  38 |  18 |

SECTION-C (3 x 10 =30)

 **Answer ALL the questions.**

1. (a) Find the Mean, Median and Mode?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | Total |
| Frequency | 3 | 5 | 12 | 6 | 4 | 30 |

(Or)

(b) Explain the scope and limitations of statistics.

1. (a) Calculate Karl Pearson’s Coefficient of Skewness.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
| F | 5 | 10 | 13 | 18 | 25 | 20 | 12 | 7 |

(Or)

(b) Calculate Quartile Deviation.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| X | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| F | 13 | 20 | 25 | 18 | 12 | 6 |

1. (a) In a distribution Mean=65, Median=70, and Co-efficient of Skewness is = - 0.6.

 Find out a) Mode b) Co-efficient of Variation?

 (Or)

(b) Solve Graphically.

 Maximize Z=10x + 15 Y

 Subject to the constraints,

 2x + Y ≤ 26

 2x + 4y ≤ 56

 -x + y ≤ 5 and x, y ≥ 0

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