

Date:15-03-2022

Registration number:

ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27

B.COM - III SEMESTER

SEMESTER EXAMINATION: OCTOBER 2021

(Examination conducted in February-March 2022)

 **BC IFA 3419 - Business Statistics**

Time- 2 ½ hrs Max Marks-70

This question paper contains 3 printed pages and four parts

**Section-A**

 I. Answer any **FIVE** questions. Each question carries 2 marks. (2x5 = 10)

1. Calculate Range and Co-efficient of Range from the following.

20,35,25,30,15

1. State the uses of Index Numbers?
2. Calculate Mean from the following: 68,49,32,21,54,38,59,66,41
3. State the Limitations of Statistics.
4. Calculate Median when Mean is 26.8 and Mode 30.1?
5. What is Co-efficient of Variance when SD is 6.5 and Mean is 12.5?

**Section- B**

 II. Answer any **THREE** questions. Each question carries 5 marks. (3X5=15)

1. What are the Methods of Primary Data collection?
2. Calculate Fishers index ,Time Reversal Test and Factor Reversal Test

  **2012 2013**

|  |  |  |  |
| --- | --- | --- | --- |
| **Q0** | **P0** | **Q1** | **P1**  |
| 49 | 10 | 50 | 12 |
| 25 | 12 | 20 | 15 |
| 10 | 18 | 12 | 20 |
| 5 | 20 | 2 | 40 |
| 8 | 22 | 5 | 45 |

1. Calculate Mode using Grouping Table method:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weight | 58 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
| No of Persons  | 4 | 12 | 24 | 32 | 32 | 16 | 8 | 2 |

1. From the following compute Quartiles (Q1 and Q3 ) from the following:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weekly wages | 4-8 | 8-12 | 12-16 | 16-20 | 20-24 | 24-28 | 28-32 | 32-36 | 36-40 |
| No of workers | 6 | 10 | 18 | 30 | 15 | 12 | 10 | 6 | 2 |

**Section- C**

III. Answer any **TWO** questions. Each question carries 15 marks. (2x15=30)

1. The following data is related to the ages of husbands and wifes.Find 2 regression equations.

|  |  |
| --- | --- |
| Age of Husband | Age of wife |
| 25 | 20 |
| 28 | 26 |
| 30 | 29 |
| 32 | 30 |
| 35 | 25 |
| 36 | 18 |
| 38 | 26 |
| 39 | 35 |
| 42 | 35 |
| 55 | 46  |

1. From the data given below state which of the two series is more variable:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| Frequency A | 10 | 18 | 32 | 40 | 22 | 18 |
| Frequency B | 18 | 22 | 40 | 32 | 18 | 10 |

1. Ten participants in a beauty contest were rank by three judges in the following order

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Judge 1 | 8 | 1 | 2 | 10 | 3 | 7 | 5 | 9 | 4 | 6 |
| Judge 2 | 4 | 7 | 10 | 1 | 2 | 9 | 6 | 8 | 5 | 3 |
| Judge 3 | 10 | 3 | 2 | 9 | 4 | 8 | 7 | 5 | 6 | 1 |

Using rank correlation, determine which pair of judges have the nearest approach to the tastes in beauty

**Section- D**

IV. Answer the following **compulsory** question carrying 15 marks. (1x15=15)

1. Apply the method of least square and determine sales from the following data :

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year of sale  | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
| Refrigerators | 100 | 110 | 130 | 125 | 170 | 168 | 191 |

Plot the actual values and trend values on the graph.

Also do the prediction for 1975 and 1976.

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