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DATE: **21** **-04-2018 (9AM)**

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

**B.Com/ BPS - II SEMESTER**

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| **SEMESTER EXAMINATION: APRIL 2018** |
| **BC2415/BPS 2415–Business Statistics** |

(For supplementary candidates)

Do not write the register number on the question paper

Please attach the question paper along with the answer script.

**This paper contains three printed pages and four parts**

|  |  |  |
| --- | --- | --- |
| **Time- 2 1/2 hrs** |  | **Max Marks-70** |

**Section A**

1. Answer **any five** of the following: 5X2=10
2. Mention the four bases of classification of data.
3. What is range?
4. Mention any four methods of measuring dispersion.
5. State the uses of Index numbers.
6. Mention the components of Time series.
7. What is meant by ‘line of regression’
8. Interpret Correlation when
   1. r is in between -0.75 and -1
   2. r is in between 0 and +0.25

**Section B**

1. Answer **any three** of the following: 5X3=15
2. “Statistical methods are most dangerous tools in the hands of the inexpert” write an analysis of this statement.
3. You are given the following incomplete information and its median is 50. Find out the missing frequency.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| C.I | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| F | 2 | 8 | 6 | - | 15 | 10 |

1. Calculate the value of Mode

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90-100 |
| No. of Students | 4 | 6 | 5 | 10 | 20 | 22 | 24 | 6 | 3 |

1. Calculate Karl Pearson’s Coefficient of Correlation from the data given;

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study hours | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 |
| Marks | 66 | 67 | 64 | 67 | 71 | 69 | 70 | 68 | 70 |

1. Explain the significance of correlation analysis.

**Section C**

1. Answer **any three** of the following: 10X3=30
2. The following information is related to the Test Match Winnings in 2017 between India and SriLanka. From this you are required to find out :
3. Which Country has more winnings on an average?
4. Which country is more consistent in their wins?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TEST Matches | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| India | 9 | 13 | 20 | 10 | 8 |
| SriLanka | 5 | 12 | 24 | 12 | 7 |

1. In a group of 1000 wage earners, the monthly wages of 4% are below Rs.600 and those of 15% are under Rs.625; 15% earn Rs. 950 and above, and 5% got Rs. 1000 and above. Find the median wage.
2. Explain the scope of statistics.
3. a)From the following data obtain the regression equation X on Y

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | 6 | 4 | 8 | 10 | 2 |
| Y | 9 | 8 | 7 | 5 | 11 |

b)Compute Fisher’s Ideal index number and check for Factor reversal test.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Commodities | Base year | | Current year | |
| Price(Rs.) | Quantity | Price(Rs.) | Quantity |
| A | 15 | 25 | 25 | 20 |
| B | 20 | 60 | 60 | 35 |
| C | 15 | 60 | 50 | 48 |
| D | 10 | 10 | 20 | 13 |
| E | 30 | 16 | 40 | 16 |

1. Life of two models of TV sets obtained in a survey is given below. Find which model has greater uniformity of life.

|  |  |  |
| --- | --- | --- |
| Life (No of Years) | Sony | LG |
| 0-2 | 5 | 2 |
| 2-4 | 16 | 17 |
| 4-6 | 13 | 12 |
| 6-8 | 7 | 19 |
| 8-10 | 5 | 9 |
| 10-12 | 4 | 1 |

**Section D**

1. Compulsory question: 15X1=15
2. a)The number of graduating students in a class of 100 had the following credits.

|  |  |
| --- | --- |
| 2 students had | 0 credits |
| 5 students had | 1 credits |
| 7 students had | 2 credits |
| 11 students had | 3 credits |
| 18 students had | 4 credits |
| 24 students had | 5 credits |
| 12 students had | 6 credits |
| 8 students had | 7 credits |
| 6 students had | 8 credits |
| 4 students had | 11 credits |
| 3 students had | 12 credits |

1. How many credits were earned in all?
2. What was the average number of credits per students?
3. What was the modal number of credits?

b)if the average wage paid to 25 workers is Rs.79.60 find the missing frequencies.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Wages | 50 | 60 | 70 | 80 | 90 | 100 | 110 |
| No. of Workers | 1 | 3 | ? | ? | 6 | 2 | 1 |

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