**SAINTGITS COLLEGE OF APPLIED SCIENCES**

**First Internal Assessment Examination, February 2020**

**B. Com Fourth Semester (Computer Applications & Taxation)**

**QUANTITATIVE TECHNIQUES FOR BUSINESS II**

Total : 50 marks Name………………………

Time : 2 Hours Roll No ……………………

**Section A**

*Answer any 5 questions. Each question carries 2 marks.*

1. What is PE?
2. What do you mean by spurious correlation?
3. What is coefficient of alienation?
4. What is regression line of X on Y?
5. Explain Simple and Multiple Regressions?
6. What are the characteristics of regression analysis?

 **(5 X 2 = 10 marks)**

 **Section B**

*Answer any 5 questions. Each question carries 5 marks.*

1. Explain the merits and demerits of scatter diagram method.
2. Distinguish between correlation and regression.
3. What are the characteristics of Karl Pearson’s Coefficient of Correlation?
4. Find out the coefficient of rank correlation from the following:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks by judge A | 80 | 78 | 75 | 75 | 68 | 67 | 60 | 59 |
| Marks by judge B | 72 | 78 | 84 | 84 | 84 | 96 | 90 | 98 |

1. In order to find the correlation coefficient between two variables X and Y from 12 pairs of observations, the following data were obtained:

 ΣX2 = 670 ΣY2= 285 ΣXY = 344   ΣX= 30   ΣY= 5

Later on it was discovered that the pair (X =11, Y=4) was copied wrongly and the correct values are (X= 10, Y= 14). Find the correct regression coefficients, regression equations and correlation coefficient.

1. You are given the following data about advertising expenditure and sales

|  |  |  |
| --- | --- | --- |
|  | Advertising (Rs. in lakhs) | Sales(Rs in lakhs) |
| Arithmetic mean | 10 | 90 |
| Standard Deviation | 3 | 12 |

The correlation coefficient is 0.8

Calculate the two regression coefficients and two regression equations.

 **(5 X 5 = 25 marks)**

**Section C**

*Answer any 1 question. It carries 15marks.*

1. Calculate Karl Pearson’s coefficient of correlation from the following

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X | 60 | 56 | 70 | 80 | 45 | 50 | 48 | 85 | 90 | 88 |
| Y | 65 | 42 | 67 | 82 | 38 | 52 | 40 | 87 | 92 | 85 |

1. The following data shows the maximum and minimum temperature on a certain day at 10 cities located at different parts of India:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Max. Temp | 29 | 23 | 25 | 15 | 27 | 29 | 24 | 31 | 32 | 35 |
| Min. Temp | 8 | 3 | 7 | 5 | 8 | 19 | 10 | 7 | 5 | 8 |

1. Fit a regression line of X on Y and Y on X.
2. Estimate the Maximum Temperature when the Minimum Temperature is 12.
3. Estimate the Minimum Temperature when the Maximum Temperature is 40.
4. Also calculate Karl Pearson’s Coefficient of Correlation.

 **(1 X 15 = 15 marks)**

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***Scan QR code for the answer scheme***