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DATE: 16-04-2018 ( 9AM )

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

**B.A .ECONOMICS - IV SEMESTER**

**SEMESTER EXAMINATION – APRIL 2018**

**EC 415: Statistical Methods for Economics**

**Time: 1.30hrs Max. Marks: 35**

***This******question paper has 2 printed pages and 3 parts.***

(For supplementary candidates)

Do not write the register number on the question paper

Please attach the question paper along with the answer script.

**Part – A**

**Answer any 5 of the following : [5 x 3 = 15]**

1. Draw a sub divided bar diagram for the following , primary , secondary and tertiary sectors

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2015 | | | 2016 | | | 2017 | | |
| Sectoral Investments- *Rs in Cr* | p | s | t | p | s | t | p | s | t |
| 12 | 13 | 22 | 13 | 10 | 22 | 14 | 15 | 20 |

1. Find arithmetic mean for the following

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| x | 3 | 23 | 22 | 11 | 14 | 12 | 12 | 16 | 12 |
| f | 2 | 3 | 3 | 2 | 5 | 2 | 2 | 1 | 1 |

1. Find quartile deviation for the following

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| x | 13 | 12 | 11 | 10 | 04 | 05 | 03 | 01 | 01 |

1. What is kurtosis? With help of the diagrams draw the 3 types of kurtosis
2. Find correlation for the following

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Demand | 3 | 3 | 5 | 6 | 7 | 5 | 3 | 2 |
| Price | 1 | 2 | 6 | 3 | 2 | 2 | 1 | 1 |

EC-415-B-17

1. For the following construct an index using Laspeyer’s method for 2017 taking 2016 as base

|  |  |  |
| --- | --- | --- |
| Commodities | Price in 2016 [Rs] | Price in 2017[Rs] |
| A | 50 | 70 |
| B | 40 | 60 |
| C | 80 | 90 |
| D | 110 | 120 |
| E | 20 | 20 |

**Part – B**

**Answer any 2 of the following [2 x 5 = 10]**

1. Find median for the following

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| C-I | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
| X | 2 | 3 | 7 | 8 | 4; | 3 | 1 |

1. Compute rank correlation coefficient for the following

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| R1 | 1 | 5 | 2 | 3 | 4 |
| R2 | 1 | 2 | 3 | 5 | 4 |
| R3 | 5 | 3 | 2 | 4 | 1 |

1. Find regression line X on Y for the following

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | 2 | 4 | 5 | 6 | 8 | 11 |
| y | 18 | 12 | 10 | 8 | 7 | 5 |

**Part – C**

**Answer any 1 of the following [1 x 10 = 10]**

1. Find arithmetic mean by deviation and step deviation method for the following

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C-I | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 |
| F | 4 | 3 | 3 | 9 | 4 | 3 | 2 | 1 |
|  |  |  |  |  |  |  |  |  |

1. Find Skewness for the following by Karl Pearson’s method

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C-I | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 |
| F | 5 | 6 | 4 | 10 | 4 | 4 | 2 | 2 |