

Register Number:

**DATE: 15-04-2019**

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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** |
| **B.COM - II SEMESTER** |
| **SEMESTER EXAMINATION: APRIL 2019** |
| **BC2418 /BPS 2418 – Quantitative Analysis for Business Decisions** |
|  |  |  |  |  |  |  |
| **Time- 2 1/2 hrs** |  | **Max Marks-70** |  |
|  |  |  |  |  |  |  |
| **This paper contains three printed pages and four parts** |

**Section A**

1. Answer any **five** from the following: **2X5=10**
2. Define statistics.
3. What is meant by primary data and secondary data?
4. State any four uses of index numbers.
5. Mention the types of correlation.
6. Calculate Q1 from the following data: 60, 75, 58,45,72,90, 86.
7. Name any two components of time series.

**Section B**

1. Answer any **three** from the following: **5X3=15**
2. Explain the methods of primary data collection.
3. Calculate median from the following data:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Mid value** | 5 | 15 | 25 | 35 | 45 | 55 | 65 | 75 |
| **Frequency** | 10 | 12 | 15 | 37 | 52 | 35 | 11 | 4 |

1. Construct the index numbers for 1992 on the basis of the prices 1990, from the following data:

|  |  |  |
| --- | --- | --- |
| **Commodities** | **Price in 2016 (rs.)** | **Price in 2018 (rs.)** |
| A | 115 | 130 |
| B | 72 | 89 |
| C | 54 | 75 |
| D | 60 | 72 |
| E | 80 | 105 |

1. Calculate the missing frequency from the following data: Arithmetic mean is 37**.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **X** | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| **F** | 4 | 7 | 12 | ? | 22 | 11 | 3 |

**Section C**

1. Answer any **three** from the following: **15X2=30**
2. a) Explain limitations of statistics. **(5)**
3. Calculate Mode from the following data using grouping and analysis table:**(10)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Marks** | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 |
| **No. of students** | 1 | 3 | 10 | 6 | 10 | 9 | 1 |

1. a) Compute Karl Pearson’s co-efficient of correlation from the given data:**(10)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **X** | 25 | 35 | 45 | 52 | 20 | 33 | 40 | 30 |
| **Y** | 20 | 15 | 10 | 14 | 23 | 18 | 22 | 30 |

b) Find out the regression equation Y on X.**(5)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **X** | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| **Y** | 18 | 24 | 30 | 36 | 42 | 48 | 54 |

1. a) From the following data calculate the price index number through Fisher’s ideal method and find out the consistency of the index number by Time reversal test.**(10)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Commodities** | **2000** | **2001** |  |
| **Price(Rs.)** | **Quantity** | **Price(Rs.)** | **Quantity** |
| A | 7 | 10 | 9 | 12 |
| B | 8 | 15 | 10 | 13 |
| C | 5 | 21 | 7 | 20 |
| D | 11 | 30 | 12 | 35 |
| E | 9 | 20 | 11 | 21 |

b) There are 10 participants for an interview of different age groups. The marks scored by them are ranked according to their age which is stated below:**(5)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ranking according to age** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Ranking according to marks** | 3 | 4 | 1 | 5 | 10 | 8 | 7 | 2 | 6 | 9 |

**Section D**

**Compulsory question:**  **15X1=15**

1. **a)**Fit a straight line trend through the method of least squares of a Cotton mills company.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| **Sales****(in units)** | 110 | 115 | 130 | 140 | 145 | 160 | 180 |

 **b)** Estimate sales value for the following years- 2019, 2021, 2022 and 2024.

**(10+5)**

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