 Register Number:

Date:

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

**B.COM – II SEMESTER**

**END SEMESTER EXAMINATION- APRIL 2022**

**(**Examination conducted in July-August 2022)

**BC 2418/BPS 2418 - Quantitative Analysis for Business Decisions**

**Time: 2 ½ Hours Max Marks: 70**

**Section-A**

**Answer any FIVE questions. Each question carries 2 marks. (5x2=10)**

1. Define business statistics.
2. Mention any four functions of Statistics.
3. What are index numbers?
4. Find Z: 23, 26,32,67,26,23,58,82,94,12,59,26,15,73,91,38,26,18.
5. Mention the components of time series.
6. What is a secondary data? Give two examples

**Section- B**

**Answer any THREE questions. Each question carries 5 marks. (3x5=15)**

1. Briefly explain the types of primary data collection.
2. Compute Median from the following:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Mid-point** | 115 | 125 | 135 | 145 | 155 | 165 | 175 | 185 | 195 |
| **Frequency** | 5 | 20 | 41 | 65 | 75 | 58 | 25 | 9 | 2 |

1. Calculate Fishers index, Time Reversal Test and Factor Reversal Test:

|  |  |  |  |
| --- | --- | --- | --- |
| **2020** | | **2021** | |
| **Qo** | **Po** | **Q1** | **P1** |
| 49 | 10 | 50 | 12 |
| 25 | 12 | 20 | 15 |
| 10 | 18 | 12 | 20 |
| 5 | 20 | 2 | 40 |
| 8 | 22 | 5 | 45 |

1. Compute co-efficient of correlation from the following data through Karl Pearson’s method:

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

**Section- C**

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

1. a) Briefly explain the scope of business statistics in various fields. (5 marks)
2. Calculate Mode using Grouping and Analysis Table method: (10 marks)

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

1. Find the regression equations, X on Y and Y on X from the following data:

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

1. a) Calculate mean from the following (10 marks)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Wages** | Below 10 | Below 20 | Below 30 | Below 40 | Below 50 | Below 60 | Below 70 |
| **Number of Workers** | 4 | 14 | 32 | 54 | 70 | 81 | 90 |

b) Briefly explain the limitations of statistics. (5 marks)

**Section – D**

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

1. Given below are the figures of demand for a commodity:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Year** | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| **Demand** | 73 | 85 | 74 | 75 | 80 | 52 | 58 |

a) Fit a straight line by least square method.

b) Show actual and trend line on a graph sheet.

c) Estimate the demand for the year 2020 & 2021.

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