

Register Number:

DATE:

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

**BBA SF– II SEMESTER**

**SEMESTER EXAMINATION: APRIL 2022**

**EXAMINATION CONDUCTED IN JULY- AUGUST 2022**

**BBA SF 2219 - Quantitative Techniques II**

**Time- 2 ½ hrs Max Marks-70**

**This paper contains \_\_\_\_\_ printed pages and four parts**

**Section A**

**I. Answer any five of the following (5x2 = 10 Marks)**

1. List any two uses of statistics.
2. Mention any four ways in which secondary data can be collected.
3. Find the median of 3, 13, 7, 5, 21, 23, 39, 23, 40, 23, 14, 12, 56, 23, 29.
4. The following table shows the numbers of hours spent by a child on different events on a working day. Represent the adjoining information on a pie chart.

|  |  |
| --- | --- |
| Activity | No. of Hours |
| School | 6 |
| Sleep | 8 |
| Playing | 2 |
| Study | 4 |
| T. V. | 1 |
| Others | 3 |

1. The weights (in kg) of students are recorded below.

60, 65, 63, 70, 65, 62, 65, 63, 64, 60, 68, 58, 62, 65, 63, 65, 64, 60, 62, 63.

If the collection of data is grouped into the class intervals 56 - 59, 59 - 62, 62 - 65, 65 - 68, 68 -71 then write the tally marks for the frequency of variate 65 and the class interval 62 - 65.

1. Calculate the third quartile from the data: 4, 6, 5, 9, 8, 10, 3.

**Section B**

**II. Answer any three of the following (3x5 = 15 Marks)**

1. Explain the scope of statistics in detail.
2. Find the mean of the following data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Class Interval | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| Frequency | 12 | 16 | 6 | 7 | 9 |

1. A survey has been conducted by a group of students on 20 households in a locality as shown in the following frequency distribution table. Find the mode for the given data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Size of Family | 1-3 | 3-5 | 5-7 | 7-9 | 9-11 |
| No. of Families | 7 | 8 | 2 | 2 | 1 |

1. Draw a Histogram for the following data:

|  |  |
| --- | --- |
| Class Interval | Frequency |
| 0−10 | 35 |
| 10−20 | 70 |
| 20−30 | 20 |
| 30−40 | 40 |
| 40−50 | 50 |

**Section C**

**III. Answer any two of the following (2x15 = 30 Marks)**

1. Calculate the standard deviation from the following data:

|  |  |
| --- | --- |
| Test Taker | Score |
| 1 | 20 |
| 2 | 40 |
| 3 | 60 |
| 4 | 60 |
| 5 | 75 |
| 6 | 80 |
| 7 | 70 |
| 8 | 65 |
| 9 | 70 |
| 10 | 9 |

1. Compute:
2. Laspeyre’s
3. Paasche’s
4. Fisher’s Index numbers for the year 2010 from the following data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Commodity | Price | | Quantity | |
| 2000 | 2010 | 2000 | 2010 |
| A | 12 | 14 | 18 | 16 |
| B | 15 | 16 | 20 | 15 |
| C | 14 | 15 | 24 | 20 |
| D | 12 | 12 | 29 | 23 |

1. The following figures relates to the profits of a commercial concern for 8 years:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
| Profit | 15,420 | 15,470 | 15,520 | 21,020 | 26,500 | 31,950 | 35,600 | 34,900 |

Find the trend of profits by the method of three yearly moving averages.

**Section D**

**III. Answer the following (1x15=15 Marks)**

1. Calculate the two regression equations of X on Y and Y on X from the data given below, taking deviations from actual means of X and Y.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Price (Rs.) | 12 | 12 | 13 | 12 | 16 | 15 |
| Amt Demanded | 40 | 38 | 43 | 45 | 37 | 43 |

Estimate the likely demand when the price is Rs.20.