****

Register Number:

DATE:

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

**UG –II SEMESTER**

**SEMESTER EXAMINATION: APRIL 2022**

(Examination conducted in July-August 2022)

**BC 2321/BPS 2321: Quantitative Methods for Decision Making**

Time- 2 hrs Max Marks-60

**This paper contains two printed pages and four parts**

**Section A**

**I. Answer any FIVE of the following questions (5x3=15marks)**

1. The sum of 7 times a number and 8 times the same number is 390. Find the number.
2. Find the effective rate and compound interest on Rs. 6000 at 5% payable half-yearly for 4 years.
3. State the methods of collecting primary data.
4. List out the objectives of classification of data.
5. What is meant by skewed distribution? Mention the types of distribution.
6. Calculate range and co-efficient of range for the given observation: 18,10,15,25,45,98,56,47.

**SECTION B**

**II. Answer any TWO of the following questions (2x5=10marks)**

1. Mr. X’s salary is 30% more than Mr. Y. How much percent is Y’s salary less than that of X?
2. Summarise the methods of classification of data.
3. Compute the Arithmetic mean for the following data:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Wages** | <20 | <30 | <40 | <50 | <60 | <70 | <80 | <90 |
| **Workers** | 5 | 12 | 27 | 30 | 35 | 44 | 56 | 62 |

**BC2321/BPS2321-A-22**

**SECTION C**

**III. Answer any TWO of the following questions (2x10=20marks)**

1. a) Solve for X: $5x^{2}+6x+1=0$ **(5 marks)**

b) By selling a phone for Rs. 15,650 a man loses 9%. At what price should he sell so that he gains 4%. **(5 marks)**

11. **a) Brief out the scope of statistics. (5 marks)**

**b)** Calculate Quartiles for the given data: **(5marks)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sizes of shoes** | 5 | 6 | 7 | 8 | 9 | 10 |
| **No. of shoes** | 20 | 36 | 44 | 50 | 60 | 30 |

1. a) Calculate spearman’s rank correlation from the following: **(5 marks)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **X** | 60 | 34 | 40 | 50 | 45 | 41 | 22 | 43 | 42 | 66 | 64 | 46 |
| **Y** | 75 | 32 | 35 | 40 | 45 | 33 | 12 | 30 | 36 | 72 | 41 | 57 |

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **X** | 40 | 50 | 38 | 60 | 65 | 50 | 35 |
| **Y** | 38 | 60 | 55 | 70 | 60 | 48 | 30 |

**SECTION D**

**IV. Answer the following question (1X15=15 marks)**

1. a) Calculate mode from the following data: **(5 marks)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Marks** | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 |
| **No. of Schools** | 4 | 5 | 9 | 15 | 10 | 7 |

b) Following are the runs scored by the two batsmen names NEKO and DECO in ten innings. Find who is better scorer and who is more consistent? **(10 marks)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NEKO** | 101 | 22 | 0 | 36 | 82 | 45 | 7 | 13 | 65 | 14 |
| **DECO** | 97 | 12 | 40 | 96 | 13 | 8 | 85 | 8 | 56 | 16 |

**\*\*\*\*\*\*\*\*\*End of the paper\*\*\*\*\*\*\*\*\*\***