

Registration Number:

Date & session:

Registration Number:

Date & session:

**ST JOSEPH’S UNIVERSITY, BENGALURU -27**

**B. Com – II SEMESTER**

**SEMESTER EXAMINATION: APRIL 2024**

**(Examination conducted in May / June 2024)**

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

**(For current batch students only)**

**Time: 2 Hours Max Marks: 60**

**This paper contains \_\_\_2\_\_\_ printed pages and \_\_4\_\_\_ parts**

**Section A**

**I.** Answer ***any five*** of the following (**3 x 5 = 15 marks)**

1. Solve the equation 7 (x-3) – 3(x+4) = 7+2 (3x-8)
2. State any three functions of statistics.
3. Calculate the range and the coefficient of range from the following data:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | 100 | 101 | 102 | 103 | 104 |

1. Give the meaning of Kurtosis. Write any one differences between Leptokurtic and Platykurtic.
2. Three students contested an election and received 100, 500 and 1000 votes, respectively. What is the percentage of the total votes the winning student gets?
3. If Median = 42, Mode = 40, find Mean.

**Section B**

**II.** Answer ***any two*** of the following (**5 x 2 = 10 marks)**

1. Write the meaning of data collection? Briefly explain the sources of primary data collection.
2. Calculate the quartile deviation and its coefficient from the following data

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **X** | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
| **F** | 15 | 20 | 32 | 35 | 33 | 22 | 20 | 10 | 8 |

1. A merchant borrowed Rs 20000 each from two different money lender. For one loan he paid 18% p.a. and for the other 16% p.a. the total simple interest paid for the first year is Rs 3440. How much did he borrow from each money lender.

**Section C**

**III.** Answer ***any two*** of the following (**10 x 2 = 20 marks)**

1. A) There are two numbers such that the sum of the first and three times the second is 53, while the difference between 4 times the first and twice the second is 2. Find the numbers. B) If A & B can complete a piece of work in 12 days, B & C in 15 days, C & A in 20 days. How many days will it take for all three to complete the same work together and also find how many days does it take for A alone to do the work.
2. Ten competitors in a voice contest are ranked by three judges in the following order:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Judge 1** | 1 | 6 | 5 | 10 | 3 | 2 | 4 | 9 | 7 | 8 |
| **Judge 2** | 3 | 5 | 8 | 4 | 7 | 10 | 2 | 1 | 6 | 9 |
| **Judge 3** | 6 | 4 | 9 | 8 | 1 | 2 | 3 | 10 | 5 | 7 |

Using rank correlation, determine which pair of judges have the nearest approach to common likings in voice.

1. Find which of the two classes is more consistent in scoring marks from the following table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Marks** | 20 – 30 | 30 – 40 | 40 – 50 | 50 – 60 | 60 - 70 |
| **Class A** | 7 | 10 | 20 | 18 | 7 |
| **Class B** | 5 | 9 | 21 | 15 | 6 |

**Section D**

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

1. From the following data

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Weight (In Kgs)** | 58 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
| **No of persons** | 4 | 12 | 24 | 32 | 32 | 16 | 8 | 2 |

Calculate:

A) Median (5 marks)

B) Mode ( 10 marks)