Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec – 2018**

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|  |  |  |  |
| **Code :** | **16MA2003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **QUANTITATIVE TECHNIQUES** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Expound on the types of data based on time, sources, numbers, and scales of measurement. | CO1 | 10 |
| b. | The frequency distribution of (per day) salary among the rural household in Karunya Nagar is provided below. Depict the data in to a suitable chart. Present your inferences by comparing the salary of various classes to understand the spending behavior of the rural household.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Class | 150-250 | 250-350 | 350-450 | 450-550 | 550-650 | 650-750 | | Frequency | 6 | 8 | 10 | 14 | 6 | 3 | | CO1 | 10 |
| (OR) | | | | |
| 2. |  | In statistics, a central tendency is a central or typical value for a probability distribution. Discourse on the measures of central tendency. | CO1 | 20 |
| 3. |  | The price of two commodities over 10 weeks are given below.   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | A | 54 | 55 | 53 | 56 | 52 | 52 | 58 | 49 | 50 | 51 | | B | 108 | 107 | 105 | 106 | 105 | 103 | 102 | 104 | 104 | 101 |   a) Find out the Standard Deviations of the two sets of data.  b) Calculate the Coefficients of variation of the two sets of data and find out which set of data shows less variation. | CO1 | 20 |
| (OR) | | | | |
| 4. | a | What is Venn diagram? Explain the different operation on set with suitable examples. | CO2 | 10 |
| b | At what rate of interest would the sum Rs.5000 grow to Rs.6000 in 2 years at simple interest? | CO2 | 10 |
|  | | | | |
| 5 |  | Verify if 3(A+B)=3A+3B If | CO2 | 20 |
|  |  | (OR) |  |  |
| 6 |  | An index number is the measure of change in a variable. Elucidate its classifications with suitable examples. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Identify the mean, median & mode for the continuous class frequency distribution given below:   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Class | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | | Frequency | 6 | 8 | 10 | 14 | 6 | 3 | | CO1 | 20 |
| (OR) | | | | |
| 8. |  | Expound the various components of time series with an example for each. | CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Find the third, fifth, and ninth decile for the given data set:   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Class | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | | Frequency | 3 | 6 | 10 | 12 | 16 | 12 | 9 | 6 | 2 | | CO3 | 20 |