## TILAK MAHARASHTRA VIDYAPEETH, PUNE BACHELOR OF BUSINESS ADMINISTRATION (B.B.A.) EXAMINATION : MAY - 2024 SEMESTER - II

Sub. : Business Statistics (BBA15- 214)

| Date :22/05/2024                     |  | 05/2024 Total Mar  | ks : 60  | Time: 10.00am to 12.30pm |      |  |  |
|--------------------------------------|--|--|--|--------------------------|------|--|--|
| In                                   | str  | <ul><li><b>uctions:</b> 1) All questions are compulsory</li><li>2) Figures to the right indicate</li></ul>     | 7.<br>full marks.  |                          |      |  |  |
| Q. 1.                                | Q. 1.Choose the most appropriate option.(05)               |  |  |                          |      |  |  |
| 1                                    | 1 can be determined graphically with Histogram.            |  |  |                          |      |  |  |
|                                      |  | a) Mean<br>c) Median   | b) Mode<br>d) S.D.   |                          |      |  |  |
| 2                                    | 2.   | Analysis of variance is  |  |                          |      |  |  |
|                                      |  | a) MANOVA<br>c) T TEST   | b) ANOVA<br>d) F TEST  |                          |      |  |  |
| 3                                    | 3.   | If $\sum fi = 121$ , $\sum fixi = 440$ then Mean   | ı =  |                          |      |  |  |
|                                      |  | a) 46.3<br>c) 64.3   | b) 36.4<br>d) 3.64   |                          |      |  |  |
| 2                                    | 4. Data is 3, 5, 1, 4, 5, 3, 6, 8, 6, 2, 3, 7 then Range = |  |  |                          |      |  |  |
|                                      |  | a) 7<br>c) 8   | b) 6<br>d) 9   |                          |      |  |  |
| 5                                    | 5.   | If two or more events have same probabili event .  | two or more events have same probability then they are called likely |                          |      |  |  |
| a) equal<br>c) equally<br>d) dislike |  |  |  |                          |      |  |  |
| 0.2.                                 |  | State True / False   |  |                          | (05) |  |  |
| ]                                    | 1.   | The standard error of estimate measures the variability of the observed values around the regression equation. |  |                          |      |  |  |
|                                      |  | a) True  | b) False   |                          |      |  |  |
| 2                                    | 2.   | Two variable data is Univariate distributed data.  |  |                          |      |  |  |
|                                      | a) True b) False   |  |  |                          |      |  |  |
| 3                                    | 3.   | The correlation can never be 0.  |  |                          |      |  |  |
| a) Tru                               |  | a) True  | b) False   |                          |      |  |  |
| /                                    | 1  | a) True b) False   |  |                          |      |  |  |
| 2                                    | +.   | a) True  | h) False   |                          |      |  |  |
| 4                                    | 5.   | The notion of Statistics was originally deri   | ved from the wo  | ord "Mathematics".       |      |  |  |
|                                      |  | a) True  | b) False   | ··· · · · · · · ·        |      |  |  |

## Q. 3. Write Short notes on (Any Three)

- 1. Use of Statistics in Business
- 2. Statistical tool
- 3. Central Tendency
- 4. Measures of Dispersion
- 5. Graphs in Statistics

## Q. 4. Answer in detail (Any Two)

 In a survey, it was found that 64 families bought milk in the following quantities of liters) in a particular week. Make class frequency distribution table with 5 – 10, 10 - 15, ......35- 40 Calculate the mean.

| 19 | 6  | 10 | 14 | 13 | 22 | 15 | 16 |
|----|----|----|----|----|----|----|----|
| 24 | 23 | 36 | 21 | 27 | 22 | 16 | 24 |
| 20 | 25 | 11 | 32 | 17 | 09 | 18 | 21 |
| 34 | 26 | 21 | 21 | 22 | 07 | 10 | 22 |
| 11 | 31 | 12 | 17 | 07 | 05 | 37 | 17 |
| 39 | 20 | 18 | 33 | 30 | 16 | 19 | 25 |
| 28 | 23 | 13 | 23 | 14 | 28 | 24 | 26 |
| 08 | 12 | 23 | 18 | 20 | 29 | 15 | 09 |

2. Calculate Mean ,Mode, Median ,S.D. ,Var. & Karl Persons Correlation Coefficient , S.E. ,P.E. –

| Price (Rs.) | Demand(Rs.) |
|-------------|-------------|
| 2.2         | 6.0         |
| 2.4         | 5.8         |
| 2.8         | 5.0         |
| 3.0         | 4.8         |
| 3.2         | 4.8         |
| 3.4         | 4.8         |
| 3.6         | 4.2         |
| 3.8         | 3.6         |
| 3.8         | 3.2         |

(15)

| 3. | The distribution of lifetime in hrs. of 200 tubes is given below. Calculate the mean, |
|----|---|
|    | median and mode.  |

| Life      | Tubes |
|-----------|-------|
| 600-800   | 40    |
| 800-1000  | 55    |
| 1000-1200 | 60    |
| 1200-1400 | 25    |
| 1400-1600 | 20    |

## Q. 5. Case study

College management wanted give the scholarships to the students securing 60% marks and above in the following manner – Calculate the mean .

| % of Marks | Monthly Scholarships |  |
|------------|----------------------|--|
| 0-65       | 250                  |  |
| 65-70      | 300                  |  |
| 70-75      | 350                  |  |
| 75-80      | 400                  |  |
| 80-85      | 450                  |  |

The marks of 25 students who are eligible for scholarship are given below-Calculate the total monthly scholarship paid to the students.

| 74 | 71 | 73 | 62 | 63 |
|----|----|----|----|----|
| 75 | 84 | 61 | 76 | 72 |
| 60 | 69 | 61 | 67 | 68 |
| 83 | 74 | 78 | 72 | 66 |
| 81 | 64 | 67 | 64 | 79 |

(15)