

B. COM. DEGREE END SEMESTER EXAMINATION OCTOBER / NOVEMBER 2018**SEMESTER – 1: COMMERCE (CORE COURSE)****COURSE: 15U1CRCOM1, BUSINESS STATISTICS***(For Regular - 2018 Admission / Improvement 2017/ Supplementary 2017, 2016, 2015 Admissions)*

Time: Three Hours

Max. Marks: 75

Section – A*Answer **all** questions. Each question carries **two** marks.*

1. What is Statistics?
2. What is the empirical relation of mean, median and mode?
3. What are the merits of Geometric mean?
4. What is absolute measure of dispersion?
5. What is standard deviation?
6. What is skewness?
7. The mean of marks in statistics of 100 students in a class was 72. The mean of marks of boys was 75, while their number was 70. Find out the mean marks of girls in the class.
8. Find the range and the coefficient of range for the following observations
65, 70, 82, 59, 81, 76, 57, 60, 55 and 50.
9. Calculate G.M. and H.M. for the following observations
32, 35, 36, 37, 39, 41, 43.
10. List the common tests of consistency of index numbers.

 $(2 \times 10 = 20)$ **Section – B***Answer any **five** questions. Each question carries **five** marks.*

11. What are the requisites of good average?
12. What are the limitations of statistics?
13. Explain the uses of Index Numbers.
14. Find mean and median from the data given below

| | | | | | | |
|------------------|------|-------|-------|-------|-------|-------|
| Marks obtained: | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| No. of students: | 12 | 18 | 27 | 20 | 17 | 6 |
15. Find the mean deviation for the following data

| | | | | | | | |
|----------------|------|-------|-------|-------|-------|-------|-------|
| Class interval | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| Frequency | 8 | 12 | 10 | 8 | 3 | 2 | 7 |

16. Calculate the Cost of living Index Number from the following data.

| Items | Price (Base year) | Price (Current year) | Weight |
|---------------|-------------------|----------------------|--------|
| Food | 30 | 47 | 4 |
| Fuel | 8 | 12 | 1 |
| Clothing | 14 | 18 | 3 |
| House Rent | 22 | 15 | 2 |
| Miscellaneous | 25 | 30 | 1 |

17. Calculate three yearly moving averages for the following data.

| | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| Year: | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Y : | 242 | 250 | 252 | 249 | 253 | 255 | 251 | 257 | 260 | 265 | 262 |

(5 × 5 = 25 Marks)

Section – C

Answer any **three** questions. Each question carries **ten** marks.

18. Goals Scored by two teams A and B in a football season were as shown in the table. Find which team may be considered more consistent

| Number of Goals Scored in a match: | 0 | 1 | 2 | 3 | 4 |
|------------------------------------|----|---|---|---|---|
| Team A: | 27 | 9 | 8 | 5 | 4 |
| Team B: | 17 | 9 | 6 | 5 | 3 |

19. Fit a straight line trend equation by the method of least squares and estimate the trend values. Also estimate the value for the year 2010.

| | | | | | |
|--------|------|------|------|------|------|
| Year: | 2005 | 2006 | 2007 | 2008 | 2009 |
| Value: | 83 | 92 | 74 | 90 | 166 |

20. From the following data calculate Fisher's Ideal Index Number and see whether it satisfies both time.

Reversal and factor reversal tests.

| Commodity | Base year | | Current year | |
|-----------|-----------|-------------|--------------|-------------|
| | Price | Expenditure | Price | Expenditure |
| A | 6 | 50 | 10 | 56 |
| B | 2 | 100 | 2 | 120 |
| C | 4 | 60 | 6 | 60 |
| D | 10 | 30 | 12 | 24 |

21. What is Time Series? Explain the Components of Time Series.

22. From the following distribution calculate Karl Pearson Coefficient of Skewness and Comment.

| Wages | 70 - 80 | 80 - 90 | 90 - 100 | 100 - 110 | 110 - 120 | 120 - 130 | 130 - 140 | 140 - 150 |
|----------------|---------|---------|----------|-----------|-----------|-----------|-----------|-----------|
| No. of Persons | 12 | 18 | 35 | 42 | 50 | 45 | 20 | 8 |

(10 x 3 = 30 Marks)
