

B.COM DEGREE END SEMESTER EXAMINATION OCTOBER 2016

SEMESTER - 1: COMMERCE (CORE COURSE)

COURSE: 15U1RCOM1 - BUSINESS STATISTICS

Common for Regular (2016 Admission) & Supplementary / Improvement (2015 Admission)

Time: Three Hours

MaxMarks: 75

Section—A

*Answer **all** questions. Each question carries **two** marks.*

1. State the relationship between mean, median and mode.
2. Distinguish between absolute and relative measures of dispersion.
3. "Statistics is an art as well as a science". Explain.
4. What do you mean by variance?
5. Why Fishers index number is called ideal index number?
6. A machine depreciates by 40% in the first year, 25% in the second year, and by 10% per annum for the next three years, each percentage being calculated on the diminishing value. What is the average percentage of depreciation for the entire period?
7. The mean monthly pay to all employees in a company was Rs.600. The mean monthly salary paid to male and female employees were Rs.620 and Rs. 520 respectively. Obtain the percentage of male and female in the company.
8. The measure of skewness for a certain distribution is -0.8. If the lower and upper quartiles are 44.1 and 56.6 respectively, find the median.
9. State the uses of geometric mean.
10. Find range and its coefficient.

X:	5	10	15	20	25	30	35	40
F:	4	7	21	47	54	24	12	6

(2 x 10 = 20)

Section— B

*Answer **any five** questions. Each question carries **five** marks.*

11. Describe the functions of statistics.
12. What are the essential properties of a good average?
13. Briefly explain the components of time series.
14. Compute three yearly moving averages from the following data.

Year: 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

Sales: 55 47 59 151 79 36 45 72 83 89 102

(in ,000s)

15. Calculate consumer price index number on the basis of family budget method.

Commodity	Weight	Price in 2010 (Rs)	Price in 2015(Rs)
A	20	27	35
B	30	15	30
C	10	13	28
D	15	11	52
E	25	22	60
F	10	30	70

16. The first four moments of a distribution about the value 4 are 1, 4, 10 and 45. Find coefficient of skewness and kurtosis.

17. Compute mean deviation about median and compare the variability of two series A and B.

Series A: 3484 4572 4124 3682 5624 4388 3680 4380

Series B: 487 508 620 382 408 266 186 218

(5 x 5 = 25)

Section—C

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

18. Discuss the problems in construction of index numbers.

19. Fit a straight line trend by the method of least squares for the following data.
Also estimate the value for the year 2019.

Year: 2009 2010 2011 2012 2013 2014 2015
Sales (units): 110 115 130 140 145 160 180

20. Calculate Karl Pearson's co-efficient of skewness and comment on the result.

Marks	No. of students
0 - 10	4
10 - 20	11
20 - 30	15
30 - 40	26
40 - 50	10
50 - 60	11
60 - 70	9
70 - 80	6
80 - 90	2
90 - 100	4

21. A sample of 50 cars each of two marks X and Y is taken and average running life in years is recorded.

Life in years	No. of cars	
	Make X	Make Y
0 - 5	8	6
5 - 10	12	10
10 - 15	17	20
15 - 20	10	12
20 - 25	3	2

- i. Which of these two makes gives higher average life?
- ii. Which of these makes shows greater consistency?

22. It is stated that Marshall Edgeworth Index number is a good approximation to Ideal Index number.

Verify the statement using the following data.

Items	Base Year		Current Year	
	Price	Quantity	Price	Quantity

A	2	74	3	82
B	5	125	4	144
C	7	40	6	33

(10 x 3 = 30)