

Reg. No.....

Name.....

B.COM. DEGREE END SEMESTER EXAMINATION OCTOBER/NOVEMBER 2017**SEMESTER – 1: COMMERCE (CORE COURSE)****COURSE: 15U1RCOM1: BUSINESS STATISTICS***(Common for Regular 2017 admission and Supplementary/Improvement 2016 & 2015 admission)*

Time: Three Hours

Max. Marks: 75

SECTION—A*Answer all questions. Each question carries two marks.*

1. Define average.
2. 'Statistics is like clay of which you can make a God or Devil as you please'. Explain.
3. What do you mean by mode?
4. State and explain cyclical variation.
5. What are the uses of index numbers?
6. What is meant by kurtosis?
7. The average monthly production in a factory is calculated as 575 tonnes. Later on it was discovered that the production of February, March and October are wrongly added as 400,375 and 590 tonnes instead of 420, 340 and 599 respectively. Calculate the correct arithmetic mean.
8. For a normal distribution, mean is 60 and standard deviation is 8. Find median, quartile deviation and mean deviation.
9. Find the value of median for the following values.
X: 4, 45, 60, 20, 83, 19, 26, 11, 27, 12, 52
10. A car driver travels to a distance of 150 Kms on an average of 60 Km per hour. On his return journey the average speed per hour is 67 Km. Calculate his average speed. (2 x 10 = 20)

SECTION—B*Answer any five questions. Each question carries five marks.*

11. Distinguish between dispersion and skewness.
12. Explain the limitations of statistics.
13. What are the uses of cost of living index number?
14. An operator of a fleet of trucks purchases 100 new tyres- 50 of brand A and 50 of brand B at the same price under substantially similar driving conditions, he gets the following results.

	<u>Tyre A</u>	<u>Tyre B</u>
Arithmetic Mean	16,000 miles	20,000 miles
Standard Deviation	4,000 miles	8,000 miles

Which brand you would advice him to buy in future and why?

15. During four years ended 31st March 2016, the volume of sales increased as follows.

Year:	2013	2014	2015	2016
Percentage increase:	3	5	7	65

Find average rate of increase in sales.

16. Calculate first four central moments and find Beta measure of skewness and Kurtosis.

X: 6 7 8 10 14

17. Obtain quartile deviation and its coefficient from the following.

Wages: 10 20 30 40 50 60 70
No. of workers: 4 7 15 8 7 2 6

(5 x 5 = 25)

SECTION - C

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

18. Define statistics. Explain the characteristics of statistics.

19. Fit a straight line trend by the method of least squares to the following data relating to the number of foreign tourists visited at Munnar Tourist Centre between 2009 and 2015. Also obtain trend values.

Year: 2009 2010 2011 2012 2013 2014 2015
No. of tourists: 300 700 600 800 900 700 1000

Estimate the number of tourists expected to visit in 2017.

20. Calculate Bowley's Coefficient of skewness.

Commission (Rs)	No. of salesmen
100-120	4
120-140	10
140-160	16
160-180	29
180-200	52
200-220	80
220-240	32
240-260	23
260-280	17
280-300	7

21. Compute mean deviation about median. Also calculate the relative measure of dispersion.

Class: 10 - 19 20-29 30-39 40-49 50-59 60-69

F: 3 10 16 17 14 11

22. From the following data calculate Fishers index number and test whether it is satisfy the time reversal test and factor reversal test.

Items	Base Year		Current Year	
	Price	Expenditure	Price	Expenditure
Rice	6	300	10	560
Wheat	2	200	2	240
Potato	4	240	6	360
Onion	10	300	12	288
Oil	8	320	12	432

(10 x 3 = 30)