Reg. No..... Name.....

B. COM. DEGREE END SEMESTER EXAMINATION - OCTOBER 2019

SEMESTER – 1: COMMERCE (CORE COURSE)

COURSE: 15U1CRCOM1 – BUSINESS STATISTICS

(Common for / Improvement 2018/ Supplementary 2018/2017/2016/2015 Admission)

Time: Three Hours Max.Marks: 75

SECTION – A

*Answer **all** questions. Each question carries **2** marks.*

1. What do you understand by dispersion?
2. Define statistics.
3. What are the characteristics of an ideal index number?
4. Distinguish between skewness and kurtosis.
5. What do you mean by seasonal variation?
6. What are the limitations of statistics?
7. In a moderately asymmetrical distribution, the mode and mean are 32.1 and 35.4 respectvely. Calculate median.
8. The arithmetic mean and standard deviation of 20 items were worked out as 20 cm and 5cm respectively. But, while calculating them, an item of 13 was misread as 30. Find the correct mean and standard deviation.
9. Calculate standard deviation when coefficient of skewness is 0.8, arithmetic mean is 75 and median is 70.
10. Prove that Fishers index number satisfies both time reversal test and factor reversal tests.

(2 × 10 =20)

SECTION – B

*Answer **any five** questions. Each question carries **5** marks.*

11. State the important features of statistics.
12. Define mean deviation. Distinguish between mean deviation and standard deviation.
13. Explain why arithmetic mean is considered to be the best average?
14. Calculate Bowley's coefficient of skewness.

Expenses (Rs)	0-20	20-40	40-60	60-80	80-100	100-120
No. of families	4	21	18	27	37	5

15. A machine depreciates 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?

16. Calculate consumer price index number using aggregate expenditure method.

Commodities	Quantity (2010)	Price (2010)	Price (2017)
I	50	15	29
II	40	20	40
III	80	12	20
IV	100	18	25
V	60	25	50

17. Calculate five yearly moving averages from the following data.

Year:	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Income: (in'000Rs)	161	127	152	143	144	167	182	179	152	163	159

(5 × 5 = 25)

SECTION – C

*Answer **any three** questions. Each question carries **10** marks.*

18. Define time series. What are the components of time series? Explain.

19. From the following table of marks obtained by two students Ram and Sam in two tests of 100 marks each, find out who is more intelligent and who is more consistent.

Ram:	25	50	45	30	70	42	36	48	34	60
Sam:	10	70	50	20	95	55	42	60	48	80

20. Given the following data, what index number will you use for the purpose of comparison? Give reason.

Commodity	p_0	q_0	p_1	q_1
A	12	20	15	25
B	10	8	16	10
C	15	2	12	1
D	60	1	56	1

E	3	2	10	1

21. Fit a straight line trend by the method of least squares and tabulate trend values. What is the monthly increase in production of sugar?

Year:	2011	2012	2013	2014	2015	2016	2017
Sugar production (tones):	77	88	94	85	91	98	90

22. Calculate kurtosis from the following data and comment on the result.

Marks:	9	18	7	11	4	6	8

(10 x 3 = 30)

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