B.Com(Hons) DEGREE EXAMINATION,APRIL 2020
I Year I Semester
Business Statistics

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer **ALL** the questions

1. Define median
2. Find Arithmetic mean for the data given

X:	8	10	12	15	18
F:	5	7	12	6	10

3. Find geometric mean 3, 6, 24, 48
4. Define Type I error.
5. A sample of 900 items has mean 3.4 and S.D 2.6. Test whether the samples are drawn from a population with mean 3.25?.
6. From the following data , test the significant difference between their variances
   Sum of squares of deviation from the mean are 84.4 and 102.6
   Sample sizes are 8 and 10.
7. The probabilities of 3 students solving a problem is 1 /2 , 1/3 and1 /4 respectively. The problem is given to all the three students, what is the probability that only one will solve the problem?.
8. Find Mean Deviation about mean for the following data.

   18,20,12,14,19,22,26,16,19,24
9. What are the components of time series ?.
10. The sales of a commodity in tonnes varied from January 1979 to December 1979 as follows

    280 300 280 280 270 240
    230 230 220 200 210 200

    Fit a trend line by the method of semi average.

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

11. Mention the some characteristics of a good table.

12. Find mode for the following data

Class Interval :	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Frequency :	3	7	13	17	12	10	8	8	6	6

13. The values of variate in two samples are given

Sample I	5	6	8	1	12	4	3	9	6	10
Sample II	2	3	6	8	1	10	2	8		

Test the significant difference between their means at 5% level[Table value of t at 5% level $= 2.12$]

14. A coin is tossed 900 times and head appeared 490 times. Test the hypothesis that whether the coin is unbiased

15. A subcommittee of six members to be formed out of a group consisting of seven men and four women. Calculate the probability that the sub committee will consist of a)exactly 2W b) atleast 2 W

16. Calculate rank correlation coefficient

Rank A:	1	2	3	4	5	6	7	8	9	10
Rank B:	1	4	2	5	3	9	7	10	6	8

17. Fit a straight line trend to the data by the method of least squares

Year :	1979	1980	1981	1982	1983	1984	1985
Output:	672	824	958	1205	1454	1758	2058

18. The expenditure of 1000 families is given

Expenditure :	40-59	60-79	80-99	100-115	120-139
No of families:	50	–	500	–	50

Given that the median and mean are 87.5 both. calculate the missing frequencies.

Section C $(2 \times 15 = 30)$ Marks

PART - A - Case Study - Compulsory Question

19. Two groups of 100 people each where taken for testing the use of vaccine , 15 persons contracted the disease out the inoculated persons. While 25 contracted the disease in the other group. Test the efficiency of the vaccine using chi-square test. Table value of x^2 @ 5% level $= 3.84$.

PART - B

Answer any **ONE** questions

20. Calculate the co-efficient of correlation for the following data

X:	43	44	46	40	44	42	45	42	38	40	40	42	57
Y:	29	31	19	18	19	19	27	27	29	41	30	26	10

21. Calculate 5 yearly moving average from the following data:

Year:	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
No. of students:	332	317	357	392	402	405	410	427	405	438