TDC (CBCS) Odd Semester Exam., 2019

COMMERCE

(3rd Semester)

Course No. : COMHGE-301T

(Business Statistics)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

UNIT—I

1. Answer the following in short (any *three*) : 1×3=3

(a) Define the term 'variable'.

(b) Mention two types of absolute measures of dispersion.

(c) State one advantage of standard deviation.

(d) Write the formula of harmonic mean.

2. What is dispersion? 2

OR

3. Write a short note on 'kurtosis'. 2

4. From the following table, calculate *(a)* mean, *(b)* standard deviation and *(c)* coefficient of variation : 2+2+1=5

Monthly wages	*No. of workers*
0–10	1
10–20	4
20–30	10
30–40	22
40–50	30
50–60	10
60–70	3

OR

5. From the following set of numbers, calculate the first four moments about *(a)* the mean and *(b)* the origin 4 : 5

1, 3, 7, 9, 10

UNIT—II

6. Define the following in one sentence (any *three*) : 1×3=3

(a) Mutually exclusive events

(b) Equally likely events

(c) Events

(d) Outcomes

7. One card is drawn from a standard pack of 52. What is the chance that it is either a king or a queen? 2

OR

8. Write two properties of Poisson distribution. 2

9. Briefly explain the 'Bayes theorem'. 5

OR

10. A coin is tossed thrice. What is the chance of getting *(a)* all heads and *(b)* at least one head? 2½+2½=5

UNIT—III

11. Answer the following (any *three*) : 1×3=3

(a) When are the variables said to be correlated?

(b) Write the formula for rank correlation.

(c) Write one utility of study of correlation.

(d) Write one advantage of regression.

12. Mention various types of correlation. 2

OR

13. What is graphic method? 2

14. What is scatter diagram? 5

OR

15. Calculate Karl Pearson's correlation coefficient of the following paired data : 5

X :	28	37	40	38	35	33	40	32	34	33
Y :	23	32	33	34	30	26	29	31	34	38

UNIT—IV

16. Answer the following (any *three*) : 1×3=3

(a) What is index number?

(b) Write one limitation of index number.

(c) Write the formula for Laspeyres' index number.

(d) Write two components of time series.

17. Write two uses of index number. 2

OR

18. Write two importances of time series analysis. 2

19. From the following data, calculate *(a)* Laspeyres' index and *(b)* Paasche's index : 2½+2½=5

Item	*Base year*		*Current year*	
	Qty (units)	*Rate per unit* (₹)	*Qty* (units)	*Rate per unit* (₹)
Bread	6	40	7	30
Meat	4	45	5	50
Tea	1	90	2	40

OR

20. Distinguish between the regular and irregular fluctuations in time series. 5

UNIT—V

21. Answer the following (any *three*) : 1×3=3

(a) Write one advantage of census method.

(b) Write one demerit of sampling method.

(c) What is lottery method?

(d) Name two types of sampling errors.

22. What is type I error? 2

OR

23. What is type II error? 2

24. Write notes on the following (any *two*) : $2\frac{1}{2} \times 2 = 5$

(a) Null hypothesis

(b) *F*-test

(c) Level of significance

(d) Confidence interval

★★★