**2022/TDC/ODD/SEM/
COMGE–301T/343**

TDC (CBCS) Odd Semester Exam., 2022

COMMERCE

(3rd Semester)

Course No. : COMGE–301T

(Business Statistics)

$\dfrac{\textit{Full Marks : 50}}{\textit{Pass Marks : 20}}$

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

UNIT—I

1. Answer any *three* from the following as
   directed :   1×3=3

   (a) Define arithmetic mean.

   (b) Newspapers and magazines are the
        published sources of secondary data.

                          (Write True or False)

   (c) What is univariate data?

   (d) Calculate the mode of

            4, 3, 2, 5, 3, 4, 5, 1, 7, 3, 2, 1

(2)

2. Answer any *one* from the following : 2

(a) Find the median of 10, 6, 15, 2, 3.

(b) What do you mean by positive and negative skewness?

3. Answer any *one* from the following : 5

(a) Mention three merits and two demerits of arithmetic mean. 3+2=5

(b) From the following table, find median and mode :

Age (in years)	20–25	25–30	30–35	35–40	40–45
No. of persons	50	70	100	180	150

UNIT—II

4. Answer any *three* from the following as directed : 1×3=3

(a) What is the range of probability?

(b) Define mutually exclusive events.

(c) For a binomial distribution, mean > variance.

(Write True or False)

(d) Any particular performance of a random experiment is called trial / event.

(Choose the correct option)

(3)

5. Answer any *one* from the following : 2

(a) Give two examples of binomial distribution.

(b) State the classical definition of probability.

6. Answer any *one* from the following : 5

(a) What is the probability of getting 3 white balls in a draw of 3 balls from a box containing 5 white and 4 black balls?

(b) What do you understand by conditional probability? State the multiplication law of probability.

UNIT—III

7. Answer any *three* from the following as directed : 1×3=3

(a) If the regression coefficient $b_{yx} > 1$, then b_{xy} ——.

(Fill in the blank)

(4)

(b) If $r = 0$, then the two lines of regressions are parallel to each other.

(Write True or False)

(c) Amount of rainfall and yield of crop is a type of positive / negative correlation.

(Choose the correct option)

(d) The value of coefficient of correlation lies between ____ and ____.

(Fill in the blanks)

8. Answer any *one* from the following :   2

(a) Differentiate between correlation and regression.

(b) What is scatter diagram?

9. Answer any *one* from the following :   5

(a) The equations of two regression lines are

$$8x - 10y + 66 = 0$$
$$40x - 18y - 214 = 0$$

Find the coefficient of correlation between x and y.

(5)

(b) Obtain the equations of the two lines of regression for the data given below :

x	:	18	20	22	23	27	28	30
y	:	23	25	27	30	32	31	36

UNIT—IV

10. Answer any *three* from the following :   1×3=3

(a) What do you understand by the term 'moving average'?

(b) What is index number?

(c) Write one limitation of index number.

(d) What is least squares method of measuring trend?

11. Answer any *one* from the following :   2

(a) Write two uses of index number.

(b) What do you understand by 'analysis of time series'?

12. Answer any *one* from the following : 5

(a) Discuss the various problems in constructing index number.

(b) Fit a linear trend by the method of least squares :

Year	:	2015	2016	2017	2018	2019	2020
Production (in crores)	:	7	10	12	14	17	24

UNIT—V

13. Answer any *three* from the following : 1×3=3

(a) What is stratified sampling?

(b) Define the term 'sample'.

(c) Mention one method of collection of statistical data.

(d) What is a statistical unit?

14. Answer any *one* from the following : 2

(a) State two disadvantages of sample survey.

(b) Mention the types of errors that may occur in any statistical investigation.

15. Answer any *one* from the following : 5

(a) Discuss the advantages of sample survey.

(b) Briefly explain type–I and type–II errors.

★ ★ ★