Reg. No. : .....

Name : .....

K21U 6750

I Semester B.Com. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2021
(2019 Admission Onwards)
GENERAL AWARENESS COURSE
1A11COM : Business Statistics and Basic Numerical Skills

Time : 3 Hours

Max. Marks : 40

PART – A

Answer **any six** questions from the following. **Each** question carries **1** mark.

1. What do you mean by statistical investigation ?
2. What do you mean by weighted average ?
3. Calculate Quartile Deviation and its coefficient : Q1 = 70; Q3 = 145; N = 12.
4. Define Index Numbers. Why index numbers are called "Economic Barometers" ?
5. Find the determinant of the matrix $\begin{bmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$.
6. If $A = \begin{bmatrix} 1 & 5 & 7 \\ -1 & 2 & 3 \\ 1 & -2 & -3 \end{bmatrix}$ then check whether $A + A^T$ is a symmetric matrix.
7. Find the roots of the equation $70x - 63 = 7x^2$.
8. If A = {1, 2, 3, 4, 5} and B = {3, 4, 5, 6, 7}, then find (A – B) ∪ (B – A). **(6×1=6)**

PART – B

Answer **any six** questions from the following. **Each** question carries **3** marks.

9. Explain the important functions of statistics.
10. A Bus runs 20 kms at a speed of 40 km per hour; 10 kms at 30 km per hour and 30 kms at 60 km per hour. What is the average speed of the Bus ?

P.T.O.

11. Calculate standard deviation and coefficient of variation : N = 50; $\Sigma x = -100$; $\Sigma x^2 = 1000$; where x is the deviation from assumed mean 14.5.

12. Explain the problems in the construction of index numbers.

13. If $\begin{bmatrix} x-y & 2x+z \\ 2x-y & 3z+w \end{bmatrix} = \begin{bmatrix} -1 & 5 \\ 0 & 13 \end{bmatrix}$, then find the values of x, y, z, w.

14. Prove that $(A \cup B)' = A' \cap B'$.

15. Find the two numbers whose difference is 2 whose product is 224.

16. Solve the equation $\frac{4}{x-2} + \frac{1}{x+1} = \frac{1}{x-1}$. **(6×3=18)**

PART – C

Answer **any two** questions from the following. The **each** question carries **8** marks.

17. Find out mode from the following series.

Marks (Below)	5	10	15	20	25	30	35	40	45
No. of Students	20	44	76	104	124	140	174	184	192

18. Calculate Fisher's Ideal Index from the following data and show whether it satisfies both time reversal and factor reversal tests.

Commodity	**2020**		**2021**	
	Price	**Expenditure**	**Price**	**Expenditure**
A	8	80	10	120
B	10	120	12	96
C	5	40	5	50
D	4	56	3	60
E	20	100	25	150

19. Solve the system of linear equations; $x - y + 2z = 7$, $3x + 4y - 5z = -5$ and $2x - y + 3z = 12$. **(2×8=16)**