



K24U 4084

Reg. No. : .....

Name : .....

**First Semester B.Com./B.Com. Logistics Degree (C.B.C.S.S. – O.B.E. –  
Supplementary/Improvement) Examination, November 2024  
(2019 to 2023 Admission)**

**GENERAL AWARENESS COURSE**

**1A11COM : Business Statistics and Basic Numerical Skills**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

Answer **any six** questions. **Each** question carries **1** mark.

**(6x1=6)**

1. What is a Determinant ?
2. What is frequency distribution ?
3. What are the precautions to be taken while using secondary data ?
4. State the commonly used three averages.
5. Find the median for the following data  
4, 25, 45, 15, 26, 35, 55, 28, 48.
6. Compute Geometric mean.  
57.5, 87.75, 53.5, 73.5, 81.75.
7. What is diagonal matrix ?
8. Define Standard Deviation.

P.T.O.



## SECTION - B

Answer **any 6** questions. **Each** question carries **3** marks. **(6×3=18)**

9. State some important functions of statistics.
10. What are the properties of Transpose ?
11. Out of 2400 students who appeared for B. Com. degree Examination, 1500 failed in Numerical skill, 1200 failed in Accountancy and 1200 failed in informatics, 900 failed in both Numerical skills and Accountancy, 800 failed in both Numerical skills and informatics, 300 failed in Accountancy and Informatics, 40 failed in all subjects. How many students passed in all three subjects ?

12. Solve the equation

$$2 \begin{bmatrix} x & y \\ z & t \end{bmatrix} + 3 \begin{bmatrix} 1 & -1 \\ 0 & 2 \end{bmatrix} = 5 \begin{bmatrix} 3 & 5 \\ 4 & 6 \end{bmatrix}$$

13. Two third of a number decreased by 2 equals 4. Find the number.

14. Calculate Mode.

<b>Size :</b>	0-5	5-10	10-15	15-20	20-25	25-30
<b>Frequency</b>	20	24	32	28	20	26

15. Find Harmonic Mean :

<b>Size :</b>	6	10	14	18
<b>F</b>	20	40	30	10

16. Compute Standard Deviation.

4, 8, 10, 12, 15, 9, 7, 7.



SECTION - C

Answer **any 2** questions. **Each** question carries **8** marks.

(2x8=16)

17. Solve the equation by using matrix.

$$x - y + z = 4$$

$$2x + y - 3z = 0$$

$$x + y + z = 2$$

18. Solve  $4x + 2y - 3z = 2$ ,  $3x + 4y - 2z = 10$  and  $2x - 5y = 5$  using simultaneous equation method.

19. The following data relates to the prices and quantities of 4 commodities in the years 2018-19 and 2021-22. Construct the index numbers of price for the year 2021-22 by using 2018-19 the base year by

- i) Laspeyre's method,
- ii) Paasche's method,
- iii) Fisher's ideal method:

Commodity	2018-19		2021-22	
	Price (in ₹) $p_0$	Quantity $q_0$	Price (in ₹) $p_1$	Quantity $q_1$
A	5	100	6	150
B	4	80	5	100
C	2.5	60	5	72
D	12	30	9	33



K23U 4043

Reg. No. : .....

Name : .....



**I Semester B.Com. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/  
Improvement) Examination, November 2023  
(2019 Admission Onwards)  
General Awareness course  
1A11COM : BUSINESS STATISTICS AND BASIC NUMERICAL SKILLS**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

Answer **any six** questions. **Each** question carries **1** mark.

1. Define Statistics.
2. What is Range ?
3. What do you mean by Index Number ?
4. What is Crammers Rules ?
5. What is Set Theory ?
6. What is Null Matrix?
7. Calculate mode, if the mean and median are respectively 28 and 24.
8. Skewness is 1.59, its mean is 148 and mode 112, find the standard deviation.

(6×1=6)

**SECTION – B**

Answer **any six** questions. **Each** question carries **3** marks.

9. What are the functions of Statistics ?
10. What are the problems in constructing Index Numbers ?

Wages	Below 10	Below 20	Below 30	Below 40
No. of workers	4	10	18	12

P.T.O.



11. Explain the characteristic of a good average.
12. Sharers of two companies have the following data :

	Company A	Company B
Mean	15	20
Standard Deviation	5	8

- i) Which company's share is more stable ?
- ii) Which company's share is speculative ?
13. An aeroplane covers four sides of a square at speeds of 100, 200, 300, and 400 km per hour respectively. What is the average speed of the Plane ?
14. Find Quartile Deviation  
48, 18, 20, 24, 27, 30, 55.
15. Find the value of the determinant of the Matrix

$$A = \begin{vmatrix} 4 & 7 & 8 \\ -9 & 0 & 0 \\ 2 & 3 & 4 \end{vmatrix}$$

16. Ravi obtained 70 and 75 marks in the first two-unit tests. Find the minimum marks he should get in the third test to have an average of at least 60 marks.

(6×3=18)

## SECTION - C

Answer **any two** questions. **Each** question carries **8** marks.

17. From the following data compute the arithmetic averages of wages :

Wages	Below 10	Below 20	Below 30	Below 40	Below 50	Below 60	Below 70	Below 80
No. of workers	4	16	40	76	96	112	120	125

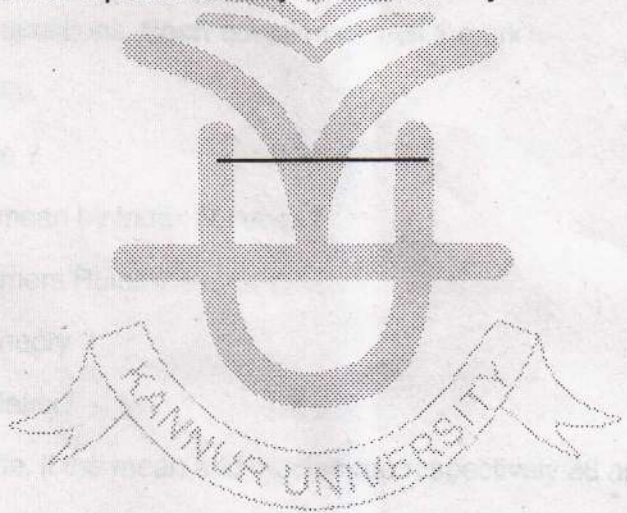


18. Compute

- i) Laspeyre's
- ii) Paasche's and
- iii) Fisher's index numbers from the following data :

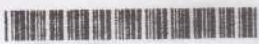
Commodity	2012		2022	
	Price	Quantity	Price	Quantity
A	5	100	6	150
B	4	80	5	100
C	2.5	60	5	72
D	12	30	9	33

19. Solve the system of equation  $2x - 3y = 1$  and  $3x - 4y = 1$ . (2x8=16)



(3=1=9)

P.T.O.



K22U 3392

Reg. No. : .....

Name : .....



I Semester B.Com. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, November 2022 (2019 Admission Onwards)

GENERAL AWARENESS COURSE

1A11COM : Business Statistics and Basic Numerical Skills

Time : 3 Hours

Max. Marks : 40

SECTION - A

Answer any six questions. Each question carries 1 mark.

1. What is a Universal Set ?
2. Define Statistics.
3. What is Tabulation ?
4. State the different types of averages.
5. What is Mean deviation ?
6. Calculate A.M.

Below 10	5
10 – 20	12
20 – 30	14
30 – 40	10
Above 40	8

7. Define Index numbers.
8. What is the median of : 3, 6, 7, 8, 11, 15 ?

(6×1=6)

P.T.O.



SECTION - B

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

Answer any 6 questions. Each question carries 3 marks.

9. State the difference between Primary data and Secondary data.
10. Explain the merits and demerits of Standard Deviation.
11. Find the matrix A, so that the following equality is satisfied.
12. Solve  $4(x - 2) + 5(x - 3) - 25 = x + 8$ .
13. A man sells 7 horses and 8 cows at Rs. 2,940/- and 5 horses and 6 cows at Rs. 2,150/-. What is the selling price of each ?
14. Among 60 people, 35 can speak in English, 40 in Malayalam and 20 can speak in both the languages. Find the number of people who can speak atleast one of the languages. How many cannot speak in any of these languages ?

15. Let  $A = \begin{bmatrix} 1 & 2 & 3 \\ -2 & 1 & 4 \end{bmatrix}$   $B = \begin{bmatrix} 2 & 3 & 1 \\ 5 & 4 & 2 \\ 1 & 5 & 3 \end{bmatrix}$ . Compute AB.

5	Below 10
12	10 - 20
14	20 - 30
10	30 - 40
	Above 40

16. Compute Quartile deviation.

x	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
f	5	12	15	9	10	3

(6x3=18)

(6x1=6)





SECTION – C

Answer any 2 questions. Each question carries 8 marks.

17. Compute Laspeyre's, Paasche's, Marshall – Edgeworth, Dorbish – Bowley and Fisher's Index numbers from the following data.

Items	Base Year		Current Year	
	Price	Expenditure	Price	Expenditure
A	50	100	60	180
B	40	120	40	200
C	100	100	120	12
D	20	80	25	100

18. The following is the marks obtained by 140 students in a college. Find the median marks.

Marks	Number of Students
10 – 19	7
20 – 29	15
30 – 39	18
40 – 49	25
50 – 59	30
60 – 69	20
70 – 79	16
80 – 89	7
90 – 99	2

19. Find out S.D.

Production in tones :	50	100	125	150	200	250	300
No. of factories :	2	5	7	12	9	5	3

(2x8=16)



K21U 6750

Reg. No. : .....

Name : .....

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 :  $Q_1 = 70$ ;  $Q_3 = 145$ ;  $N = 12$ .
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  $(A - B) \cup (B - A)$ . **(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 :  $N = 50$ ;  $\sum x = -100$ ;  $\sum x^2 = 1000$ ; 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.

<b>Marks (Below)</b>	5	10	15	20	25	30	35	40	45
<b>No. of Students</b>	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)



K20U 3293

Reg. No. : .....

Name : .....

**I Semester B.Com. Degree CBCSS (OBE) Reg./Sup./Imp.  
Examination, November 2020  
(2019 Admn. Onwards)  
General Awareness Course**

**1A11COM : BUSINESS STATISTICS AND BASIC NUMERICAL SKILLS**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

Answer any 6 questions. Each question carries 1 mark. (6×1=6)

1. Define mean deviation and standard deviation.
2. What is statistical unit ?
3. Write the formulae of standard deviation of the combined series.
4. What is quartile deviation ?
5. A man travels from Cochin to Trivandrum by a car and takes 4 hr to cover the distance. In the first hour he maintains a speed of 50 km/h, in the second hour his speed remains 64 km/hr, in the third 80 kmh, and in the fourth hour he travels at the speed of 55 km/h. Calculate the average speed of the motor car.
6. What is meant by tabulation of data ?
7. If A be the set of all prime numbers and  $M = \{0, 1, 2, 3\}$  find  $S \square M$ .
8. What do you mean by an 'AVERAGE' in statistics ?

**SECTION – B**

Answer any 6 questions. Each question carries 3 marks. (6×3=18)

9. Solve the equations using determinants  

$$5x - 7y = 46$$

$$3x + 4y = 3$$
10. Explain properties of a good measure of dispersion.

P.T.O.



11. Determine the median and 1<sup>st</sup> and 3<sup>rd</sup> quartile values using following data.

27	37	28	40	23	30	35	24	30	31	32	28
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12. The mean and standard deviation of 200 items were found to be 60 and 20 respectively. At the time of calculation, two items were wrongly taken as 3 and 67 instead of 13 and 17. Find correct mean and standard deviation.
13. In a class of 100 students, 45 students read Physics, 52 students read Chemistry and 15 students read both the subjects. Find the number of students who study neither physics nor Chemistry.
14. Solve the system of equation using matrixes

$$5x - 6y + 4z = 15$$

$$7x + 4y - 3z = 19$$

$$2x + y + 6z = 46$$

15. The distribution of age at the marriage of grooms with brides of age group 15 to 39 is as follows. Calculate mean deviation.

Age	15 - 19	19 - 23	23 - 27	27 - 31	31 - 35	35 - 39
No. of grooms	8	59	47	23	6	4

16. List out and explain the precautions to be taken in the use of secondary data.

### SECTION - C

Answer **any 2** questions. **Each** question carries **8** marks.

(2×8=16)

17. Calculate weighted price index from following data.

Materials required	Unit	Qty. required	Price (Rs.)	
			2000	2005
Cement	100 lb	500 lb	5	8
Timber	c.ft.	2000 c.ft.	9.5	14.2
Steel sheet	Cwt	50 cwt	34	42.20
Bricks	per '000	20000	12	24



18. Calculate Laspyre's, Paasche's and Fisher's indices for the following data. Also examine which of the above indices satisfy (i) Time reversal test (ii) factor reversal test.

Commodity	Base year		Current year	
	Price	Qty	Price	Qty
A	6.5	500	10.8	560
B	2.8	124	2.9	148
C	4.7	69	8.2	78
D	10.9	38	13.4	24
E	8.6	49	10.8	27

19. In two factories A and B engaged in the same industry, the average weekly wages and standard deviations are as follows.

Factory	Average weekly wage (Rs.)	SD of wages	No. of employees
A	460	50	100
B	490	40	80

- i) Which factory A or B pays a higher amount as weekly wages ?
  - ii) Which factory shows greater variability in the distribution of wages ?
  - iii) What is the mean and standard deviation of all the workers in the two factories taken together ?
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K19U 3293



Reg. No. : .....

Name : .....

I Semester B.Com Degree (CBCSS(OBE) - Regular)

Examination, November - 2019

(2019 Admission)

GENERAL AWARENESS COURSE

1A11COM : BUSINESS STATISTICS AND BASIC NUMERICAL SKILLS

Time : 3 Hours

Max. Marks : 40

**SECTION - A**

Answer any **Six** questions. Each question carries **1** mark. (1×6=6)

1. Define quartile deviation.
2. Define truth table with an example.
3. What is mutually exclusive events? Write an example.
4. If  $A=\{3,6,9\}$ ,  $B=\{3,4,5,6,7\}$  and  $U=\{1,2,3,4,5,6,7,8,9\}$ , then what is  $A \cup B$  and  $A \cap B$ ?
5. Write any three limitations of statistics.

6. Write the transpose of the matrix  $A = \begin{matrix} 2 & 3 & 1 \\ 4 & 8 & 3 \\ 1 & 7 & 5 \end{matrix}$

7. What is the rank of a matrix?
8. Define Kelly's method of index number and write its equation.

**SECTION - B**

Answer any **Six** questions. Each question carries **3** marks. (6×3=18)

9. Find the inverse, if it exists, of the matrix  $A = \begin{matrix} 1 & -1 & 1 \\ 0 & 2 & -1 \\ 2 & 3 & 0 \end{matrix}$

P.T.O.



10. Use matrix inverse methods to solve the system

$$x_1 - x_2 + x_3 = -5$$

$$2x_2 - x_3 = 2$$

$$2x_1 + 3x_2 = -3$$

11. A city has two daily newspapers, the *Sentinel* and the *Journal*. The following information was obtained from a survey of 100 city residents: 35 people subscribe to the *Sentinel*, 60 subscribe to the *Journal*, and 20 subscribe to both newspapers.

- How many people subscribe to the *Sentinel* but not to the *Journal*?
- How many subscribe to the *Journal* but not to the *Sentinel*?
- How many do not subscribe to either paper?
- Organize this information in a table.

12. Calculate the mean and standard deviation for the following table giving the age distribution of 542 members.

Age in years:	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of members:	3	61	132	153	140	51	2

13. Find the determinant of the given matrix

$$A = \begin{bmatrix} 2 & -3 & 1 \\ 2 & 0 & -1 \\ 1 & 4 & 5 \end{bmatrix}$$

14. For a group of 200 candidates, the mean and standard deviation of scores were found to be 40 and 15 respectively. Later on it was discovered that the scores 43 and 35 were misread as 34 and 53 respectively. Find the corrected mean and standard deviation corresponding to the corrected figures.

15. Let the universal set  $U$  be the set of positive integers less than or equal to 100. Let  $A$  be the set of multiples of 3 in  $U$ , and let  $B$  be the set of multiples of 5 in  $U$ .





- a) Find  $n(A \cap B)$ ,  $n(A \cap B')$ ,  $n(B \cap A')$ , and  $n(A' \cap B')$
- b) Draw a Venn diagram with circles labelled A and B, indicating the numbers of elements in the subsets of part(A).
16. From the following table showing the wage distribution in a certain factory, determine:
- a) The mean wage,
- b) The median wage,
- c) The mode wage

Weekly wage	No of employees
20 - 40	8
40 - 60	12
60 - 80	20
80 -100	30
100-120	40
120-140	35
140-160	18
160-180	7
180-200	5

**SECTION - C**

Answer any **TWO** questions. Each question carries **8** marks. **(2×8=16)**

17. An analysis of monthly wages paid to the workers of the firms A and B belonging to the same industry gives the following results:

	Firm A	Firm B
No of workers	500	600
Average monthly wage	186	175
Variance of distribution of wages	81	100

**P.T.O.**



- a) Which firm. A or B. has the larger wage bill?
- b) In which firm. A or B, is there greater variability in individual wages?
- c) Calculate the average monthly wage and variance of distribution of wages of all workers in both firm worked together.
18. From the following find out the paasche's price index and check for time reversal and factor reversal test.

Commodity	Base year price	Current year price	Base year quantity	Current year quantity
A	400	850	100	120
B	320	690	20	60
C	720	1600	10	10
D	720	2100	10	20

19. Solve the following system of equations using Cramer's rule

$$-4x+2y-9z=2$$

$$3x+4y+z=5$$

$$x-3y+2z=8$$