Total No. of Printed Pages: 3

SUBJECT CODE NO: - CC-3510
FACULTY OF COMMERCE AND MANAGEMENT
B.Com. F.Y (Sem-I)
Examination December/January-2022-23
Business Mathematics & Statistics-I

[Time: 3:00 Hours] **[Max. Marks:80]**

Please check whether you have got the right question paper.

N.B 1) Question No 1 is compulsory.
2) Solve any Four from Q. No 2 To Q. No. 7
3) Non-programmable calculator is allowed.

Q1 A) A select the most appropriate answer from the alternatives given below (One Mark Each) 05

1] According to _____ statistics is a science of counting and averages.
a) Bowley b) Kelly c) Fisher d) None of these

2] Statistics should be _____ of facts.
a) Single b) Aggregates c) Double d) None of these

3] The most stable measure of central tendency is _____.
a) Mean b) Median c) Mode d) None of these

4] $\begin{vmatrix} a & b \\ c & d \end{vmatrix}$ is the determinant of _____ order.
a) third order b) Second order c) Multi order d) None of these

5] A matrix having no. of rows = number of columns a matrix is called as _____ matrix.
a) Equal b) Square c) Rectangular d) None of these

B) Answer the following questions in one sentence each: (One Marks Each) 05
1] What is primary dates?
2] Define Mode?
3] What is mean by diagonal matrix?
4] Define Skewness?
5] What is mean by Determinant?

C) Fill in the blanks and write the sentences. (One Mark Each) 05
1] Report is the source _____ Data.
2] Median is a measure of _____.
3] Skewness is _____ of symmetry.
4] In a second order determinant total elements are _____
5] A determinant has a _____ value.

D) State whether the following statements are true or false. (One Mark Each) 05

1] Questionnaire is the tool of collecting secondary data.
2] Arithmetic mean is also called as average.
3] When the value of mode is greater than mean, it is called positive skewness.
4] If elements of a determinant contain zero then value of determinant is not zero.
5] In a square matrix No. of Rows = No. of Columns.

Q2 Calculate mean, median and mode from the following data 15

Marks	Frequency
10-20	4
20-30	12
30-40	40
40-50	41
50-60	27
60-70	13
70-80	9
80-90	4

Q3 The following Table gives the frequency distribution of marks obtained by 150 students in the subject of Business Statistics. 15

Marks	No. of Students
0-10	7
10-20	10
20-30	20
30-40	40
40-50	30
50-60	28
60-70	10
70-80	5

From the above distribution calculate: Arithmetic Mean, Standard deviation, Coefficient of variation.

Q4 Calculate the Karl Pearson's Co-efficient of skewness from the following data. 15

Weekly Wages (in Rs.)	No. of Workers
0-10	5
10-20	10
20-30	12
30-40	16
40-50	27
50-60	10
60-70	15
70-80	5

Q5 Evaluate the following determinant 15

$$\begin{vmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{vmatrix}$$

Q6 If $A = \begin{bmatrix} 3 & 15 \\ 18 & 21 \end{bmatrix}$ and $B = \begin{bmatrix} 30 & 6 \\ 24 & 18 \end{bmatrix}$ 15

Find i) A-B ii) B-A

Q7 Write short notes (Any Three) 15

1) Merits & Demerits of Median
2) Difference between primary and secondary data
3) Types of Matrices
4) Methods of collecting primary data.
5) Limitations of Statistics