Total No. of Printed Pages: 3

SUBJECT CODE NO:- 3043
FACULTY OF COMMERCE AND MANAGEMENT
B.Com F.Y Sem-I
Examination March/April-2022 (To be held in June/July-2022)
Business Mathematics & Statistics-I

[Time: 3:45 Hours] **[Max. Marks:80]**

Please check whether you have got the right question paper.

N.B.
i) Question No.1 is compulsory.
ii) Solve any 4 questions from question no. 2 to 7.
iii) Use of log table and calculator is allowed.

Q.1 A) A select the most appropriate answer from the alternatives given below. (one mark each): 05

1) $\sum X$ means _____
a) The sum of Rules
b) A series of figure
c) The sum of value
d) all of the above.

2) Determinant is an arrangement of numbers into _____ number of rows and columns.
a) square
b) Equal
c) unequal
d) None of above

3) A matrix obtained by interchanging rows and columns of A is called _____.
a) Transpose
b) Equal
c) scalar
d) inequal

4) C. V. is calculated by _____
a) $(\sigma)^2$
b) S. D. / 100
c) (S. D. / mean) × 100
d) 3m – 2n

5) Absolute measures are _____
a) Quartile Deviation
b) Standard Deviation
c) Range
d) Mean Deviation

B) Write the answers to the following questions in one sentence. (one mark each) 05

1) What is mean by secondary data?
2) Define Average?

3) What is meant by square matrix's ?
4) What is variance?
5) From which measures M.D. is be calculated?

C) Fill in the blanks and write the sentences (one mark each): 05

1) $(AB)^T$ = _____
2) Median is a measure of _____
3) If $D = \begin{vmatrix} X & 5 \\ 4 & 10 \end{vmatrix}$ ∴ X = _____
4) According to _____ statistics is a science of counting and averages.
5) What is the coefficient of M. D. about mean when mean = 16 and mean deviation about mean is 4 _____

D) State whether the following statements are true or false (one mark each) 05

1) Skewness is positive when mean > mode.
2) Primary data and grouped data are same.
3) Arthemetic mean, median, mode are there forms of averages
4) If A, are matrices of same order and K is a scalar, then K (A + B) = KB + KA
5) Standard deviation is robust to outlies.

Q.2 Calculate Mean, Median and Mode from the following data: 15

Marks in Account (out of 100)	No of students
0 – 10	4
10 – 20	6
20 – 30	17
30 – 40	23
40 – 50	14
50 – 60	4
60 – 70	2

Q.3 Calculation of standard deviation and its co-efficient from the following data. 15

salary in Rs.	No of Employees
100 – 200	5
200 – 300	11
300 – 400	12
400 – 500	21
500 – 600	28
600 – 700	14
700 – 800	7
800 – 900	2

Q.4 15

If $A = \begin{bmatrix} 6 & 7 & 8 \\ 9 & 5 & 4 \\ 8 & 8 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 2 & 1 \\ 7 & 4 & 3 \\ 5 & 4 & 2 \end{bmatrix}$ Find i) A + B ii) A – B

Q.5 Evaluate the following determinants. 15

$$\begin{vmatrix} 10 & 13 & 16 \\ 11 & 14 & 17 \\ 12 & 15 & 18 \end{vmatrix}$$

Q.6 Calculate Karl Pearson's Co-efficient of skewness from the following data. 15

Wages (in Rs.)	No. of workers
70 – 80	5
80 – 90	12
90 – 100	25
100 – 110	38
110 – 120	22
120 – 130	12
130 – 140	4
140 – 150	2

Q.7 Write short notes (any three) 15

1) Merits & Demerits of mean
2) Objectives of skewness
3) Importance of statistics
4) Advantages of sampling
5) Primary and secondary data