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**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) unequal
- 4) C. V. is calculated by \_\_\_\_\_
  - a)  $(\sigma)^2$
  - b) S. D. / 100
  - c) (S. D. / mean)  $\times$  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):

- 1)  $(AB)^T = \underline{\hspace{2cm}}$
- 2) Median is a measure of  $\underline{\hspace{2cm}}$
- 3) If  $D = \begin{vmatrix} X & 5 \\ 4 & 10 \end{vmatrix} \therefore X = \underline{\hspace{2cm}}$
- 4) According to  $\underline{\hspace{2cm}}$  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  $\underline{\hspace{2cm}}$

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

- 1) Skewness is positive when mean > mode.
- 2) Primary data and grouped data are same.
- 3) Arithmetic 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 outliers.

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

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.

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 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.

10	13	16
11	14	17
12	15	18

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

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)

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

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