Bachelor of Commerce

BCOMFOL

BCOC – 134: BUSINESS MATHEMATICS AND STATISTICS

ASSIGNMENT

2025

Valid from 1st January 2025 to 31st December 2025

Third Semester

BACHELOR OF COMMERCE (BCOMFOL)
BCOC – 134: BUSINESS MATHEMATICS AND STATISTICS

ASSIGNMENT: 2025

Dear Students,

As explained in the Programme Guide, you have to do one Tutor Marked Assignment in this Course. The assignment has been divided into three sections. Section A Consists of long answer questions for 10 marks each, Section B consists of medium answer questions for 6 marks each and Section C consists of short answer questions for 5 marks each.

Assignment is given 30% weightage in the final assessment. To be eligible to appear in the Term-end examination, it is compulsory for you to submit the assignment as per the schedule. Before attempting the assignments, you should carefully read the instructions given in the Programme Guide.

1. Those students who are appearing in December 2025 exams. They should download the new assignment and submit the same latest by 15 October 2025.

You have to submit the assignment of all the courses to the Coordinator of your Study Centre.

TUTOR MARKED ASSIGNMENT

COURSE CODE	:	**BCOC – 134**
COURSE TITLE	:	**BUSINESS MATHEMATICS AND STATISTICS**
ASSIGNMENT CODE	:	**BCOC – 134/TMA/2025**
COVERAGE	:	**ALL BLOCKS**

Maximum Marks: 100

Note: Attempt all the questions.

Section – A

Q. 1 A shopkeeper charges Rs. 25 per item for buying 20 or less items. He gives some rebate if items bought are more. If the items bought are 50 or less, then a rebate of Re. 1 per item and for purchase of more than 50 items, rebate of Rs. 2 per item. Find the cost function. What are the points at which this is not continuous? **(10)**

Q. 2 A stereo manufacturer determines that in order to sell x units of a new stereo, the price per unit, in rupees, must be $p(x) = 1000 - x$. The manufacturer also determines that the total cost of producing x units is given by $C(x) = 3000 + 20x$. **(10)**
a) Find the total revenue R(x).
b) Find the total profit P(x).
c) How many units must the manufacturer produce and sell in order to maximise profit?
d) What is the maximum profit?
e) What price per unit must be charged in order to make this maximum profit?

Q. 3 A sum of money is deposited by Krishna which compounds interest annually. The amount at the end of 2 years is Rs. 5000 and at the end of 3 years is 5200. Find the money deposited and the rate of interest. **(10)**

Q. 4 The profits (in Rs. Lakhs) earned by 100 companies during the 1987-88 are shown below. Compute (a) Mean, (B) Variance, and (c) Standard deviation by using items and their squares. **(10)**

Profits (Rs. lakhs)	No. of Companies
20-30	4
30-40	8
40-50	18
50-60	30
60-70	15
70-80	10
80-90	8
90-100	7

Q. 5 What do you mean by statistics? Explain its importance to economics and business. Also discuss the various functions of statistics. **(10)**

Section – B

Q. 6 What is weighted average? Under what conditions weighted average is preferable to a simple average? **(6)**

Q. 7 The total cost of a firm is $C=1/3x^3 - 6x^2 + 40x = 15$. Find the equilibrium output if price is fixed at Rs. 20 per unit. **(6)**

Q. 8 Find the effective discount rate when nominal rate of discount is 10% compounded continuously. **(6)**

Q. 9 A businessman sells 2000 items per month at a price of Rs. 10 each. It is estimated that monthly sales will increase by 250 items for each Re. 0.25 reduction in price. Find the demand function corresponding to this estimate. **(6)**

Q.10 Why is matrix multiplication not commutative? **(6)**

Section – C

Q.11 Write short notes on the following: **(5×2)**
   a) Partition values
   b) Correlation

Q.12 Differentiate between the following: **(5×2)**
   a) Absolute measures and relative measures of dispersion.
   b) Variance and coefficient of variation