Bachelor of Commerce

B.Com

CHOICE BASED CREDIT SYSTEM

BCOC – 134: BUSINESS MATHEMATICS AND STATISTICS

ASSIGNMENT

2023-2024

Valid from 1st January 2024 to 31st December 2024

Second Semester

School of Management Studies

Indira Gandhi National Open University

Maidan Garhi, New Delhi -110068

BACHELOR OF COMMERCE
CHOICE BASED CREDIT SYSTEM
BCOC – 134: BUSINESS MATHEMATICS AND STATISTICS

ASSIGNMENT: 2023-24

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 June 2024 Term End Examination they have to submit latest by in 15 March 2024.
2. Those students who are appearing in December 2024 exams. They should download the new assignment and submit the same latest by 15 October 2024.

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

COURSE CODE	:	BCOC – 134
COURSE TITLE	:	BUSINESS MATHEMATICS AND STATISTICS
ASSIGNMENT CODE	:	BCOC – 134/TMA/2023-24
COVERAGE	:	ALL BLOCKS

Maximum Marks: 100

Note: Attempt all the questions.

Section – A

Q. 1 A dataset representing the monthly sales (in thousands of dollars) for a small business over the past 12 months: **(10)**
20,22,18,25,21,23,19,24,20,22,26,21
Calculate the range, variance, and standard deviation for the given dataset of monthly sales. Interpret the results in the context of the business's sales variability.

Q. 2 Given the following national income model **(10)**
$$Y = C + I$$
$$C = 5 + \frac{3}{4}Y$$
$$I = 10$$
Find Y and C.

Q. 3 Discuss the various functions related to business and economics. **(10)**

Q. 4 What do you mean by maxima or minima of a function? State the meaning of absolute minimum of a function. Explain the steps for finding maxima and minima of a function. **(10)**

Q. 5 The manager of a departmental store compiled information on 200 accounts receivable which were delinquent. For each account he has noted the number of days passed after the due date. He then grouped the data as shown in the following frequency distribution. Determine the median using two methods. **(10)**

No. of days passed after due date	30-44	45-59	60-74	75-89	90-104	105-119	120-134
No. of Accounts	40	45	40	25	25	20	5

Section – B

Q. 6 A manufacturer earns Rs. 5500 in the first month and Rs. 7000 in the second **(6)**
month. On plotting these points, the manufacturer observes a linear function
may fit the data.
i. Find the quadratic function that fits the data.
ii. Using the model make a prediction of the earning for the fourth week.

Q. 7 You are given the profit function of a business activity and asked to offer your **(6)**
suggestion on the rate of change of profit. What would you do?

Q. 8 Bank pays compound interest at the rate of 5% p.a. XYZ deposited a principal **(6)**
amount of RS. 5,000 in bank for 4 years. Find the interest that XYZ will receive.

Q. 9 Explain the difference between Karl Pearson's correlation co-efficient and **(6)**
spearsman's rank correlations co-efficient. Under what situations, in the latter
preferred to the former?

Q.10 Explain briefly the additive and multiplicative models of time series. Which of **(6)**
these models is more commonly used and why?

Section – C

Q.11 Write short notes on the following: **(5×2)**
(a) Factorization
(b) Harmonic Mean

Q.12 Differentiate between the following: **(5×2)**
(a) Descriptive and Inferential statistics
(b) Absolute measures and relative measures of dispersion