

Bachelor of Commerce

B.Com

CHOICE BASED CREDIT SYSTEM

BCOC – 134: BUSINESS MATHEMATICS AND STATISTICS

ASSIGNMENT

2021-2022

Valid from 1st January 2022 to 31st December 2022

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: 2021-22

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 2022 Term End Examination they have to submit latest by in 15 March 2022.
2. Those students who are appearing in December 2022 exams. They submit the same latest by 15 October 2022.

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 : **BCOS-134/TMA/2021-22**
COVERAGE : **ALL BLOCKS**

Maximum Marks: 100

Note: Attempt all the questions.

Section – A

Q 1. In a partially destroyed laboratory record relating to correlation data, the following results are legible:

$$\sigma_x^2 = 9,$$

Regression Equations $8X - 10Y + 66 = 0$, $40X - 18Y = 214$.

What were

- (a) the mean values of X and Y,
- (b) standard deviation of Y (σ_y)
- (c) the co-efficient of correlation between X and Y ? **(10)**

Q 2. The median and the mode of the following distribution are known to be Rs. 335 and Rs. 340 respectively. Three frequency values from the table are however missing. **(10)**

Find the missing values when $n = 230$.

| Wages (in Rs.) : | 0-100 | 100-200 | 200-300 | 300-400 | 400-500 | 500-600 | 600-700 |
|------------------|-------|---------|---------|---------|---------|---------|---------|
| Frequency : | 4 | 16 | 60 | ? | ? | ? | 4 |

Q 3. From the following data, calculate Laspeyre's, Paasche's, and Fisher's Ideal Index numbers. **(10)**

| | Base Year | | Current Year | |
|---|-------------|---------------|--------------|---------------|
| | Price (Rs.) | Quantity (KG) | Price(Rs.) | Quantity (KG) |
| A | 6 | 50 | 10 | 56 |
| B | 2 | 100 | 2 | 120 |
| C | 4 | 60 | 6 | 60 |
| D | 10 | 30 | 12 | 24 |
| E | 8 | 40 | 12 | 36 |

Q4. Find the limit of the following function: **(10)**

$$\lim_{h \rightarrow 0} \frac{(6+h)^2 - 36}{h}$$

Q 5. Solve the following 2x2 system using Cramer's Rule. **(10)**

$$12x + 3y = 15$$

$$2x - 3y = 13.$$

Section B

Q 6. Define minor of a square matrix and cofactor of a square matrix? **(6)**

Q 7. What do you mean by method of factorization and method of substitution? **(6)**

Q 8. Describe cross elasticity of demand. Elaborate your answer. **(6)**

Q 9. Explain relation between correlation coefficient and regression. **(6)**

Q 10. Describe time series. Why do we analyse a time series? **(6)**

Section C

Q 11. Write short notes on: **(5X2)**

a) Differentiation

b) Quantity index

Q 12. Differentiate between: **(5X2)**

a) Absolute and relative measure of dispersion

b) Average cost and marginal cost