

EEC-13

**Bachelor's Degree Programme
(BDP)**

ASSIGNMENT

Course Code: EEC-13

Title of Course: Elementary Statistical Methods and Survey Techniques



**School of Social Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110 068**

EEC-13
ELEMENTARY STATISTICAL METHODS AND SURVEY TECHNIQUES
2022-23

Dear Student,

As explained in the Programme Guide for BDP, you will have to do one assignment for this elective course in Economics (EEC -13). This is a Tutor Marked Assignment (TMA) and carries 100 marks.

It is important that you write answers to all the questions in your own words. The TMA is designed to enable you to answer different categories of questions. Here evaluation is made keeping in view your ability to present your answer in a systematic, precise, and coherent manner.

The assignment is divided into three sections. Remember that all questions are compulsory. Section A comprises two long answer questions of 20 marks each. Section B comprises four medium answer questions of 10 marks each while in Section C you have to answer two questions of 15 marks each.

Submission

Completed assignments should be submitted to the **Coordinator of your Study Centre** by:

| | |
|---|-------------------|
| For students appearing in December 2022 Term End Exam: | 31.10.2022 |
| For students appearing in June 2023 Term End Exam: | 30.04.2023 |

**EEC-13: ELEMENTARY STATISTICAL METHODS AND SURVEY
TECHNIQUES**

**Programme Code: BDP
Course Code: EEC-13
Assignment Code: EEC-13/AST/TMA/2022-23
Maximum Marks: 100**

Answer all the questions.

A. Long Answer Questions **2 x 20 = 40 marks**

1. (a) Bring out the salient features of normal distribution. What is the need for a standard normal distribution?
(b) Find out the area under the standard normal curve for each of the following (use z-table). Sketch each one of them.
 - (i) between $z = 0$ and $z = -0.78$
 - (ii) between $z = -0.62$ and $z = 0$
 - (iii) between $z = -0.45$ and $z = 0.87$
 - (iv) between $z = 0.5$ and $z = 1.5$
 - (v) to the right of $z = -1.33$.
2. Differentiate between seasonal variation and cyclical fluctuations in time series data. Outline the steps of the ratio-to-trend method.

B. Medium Answer Questions **3 x 10 = 30 marks**

- 3) Bring out the major properties of binomial distribution. Mention certain important uses of this distribution.
- 4) a) Define correlation coefficient. What are its properties?
b) Find out the correlation coefficient from the following data.

| | | | | | | | | |
|---|---|----|----|----|----|----|----|----|
| X | 5 | 8 | 10 | 12 | 13 | 15 | 17 | 16 |
| Y | 8 | 12 | 14 | 10 | 13 | 16 | 14 | 17 |

- 5) Describe the factor reversal test and time reversal test in the context of index number. Does any index number formula satisfy both the above tests?

C. Short Answer Questions

2 x 15 = 30 marks

- 7) Write short notes on the following in about 100 words each:
- (a) Contingency table and chi-squared test
 - (b) Properties of a good estimator
 - (c) Measurement of skewness
- 8) Differentiate between the following:
- (a) Estimator and estimate
 - (b) Type I and Type II errors in hypothesis testing
 - (c) Sampling error and non-sampling error