BACHELOR'S OF ARTS (ECONOMICS HONOURS) PROGRAMME

(BAECH)

ASSIGNMENT 2024-25

For July 2024 and January 2025 Admission cycle

COURSE CODE: BECE-142

Applied Econometrics

SCHOOL OF SOCIAL SCIENCES

INDIRAGANDHINATIONALOPENUNIVERSITY

MAIDAN GARHI, NEW DELHI-68

Dear Student,

As we have informed you in the Programme Guide, evaluation at IGNOU consists of two parts: i) continuous evaluation through assignments, and ii) term-end examination. In the final result, assignments of a course carry 30% weightage while 70% weightage is given for term-end examination.

You will have to do three Tutor Marked Assignments (TMA) for a six credit course and two TMAs for a four credit course. This Assignment booklet has TMAs for the core course **BECE-142 Applied Econometrics** which is a six credit course. The booklet therefore has three TMAs whose total marks add up to 100 and carry a weightage of 30 %.

Assignment One has applied Category Questions (DCQs). These are meant to improve your analytical skills. These are intended to test your ability to describe your understanding/knowledge about the topic in a systematic, to-the-point and coherent manner.

Assignment Two has Middle Category Questions (MCQs). These questions require you to first analyse the topic in terms of arguments and explanations and then write the answers in a concise manner. They are meant to test your ability to distinguish, compare and contrast, or clear understanding of the concepts and processes.

Assignment Three has Short Category Questions (SCQs). These questions are meant to improve your skill of recall in brief the relevant/precise information about persons, writing, events, or clear understanding of concepts and processes.

Before you attempt the assignments, please read the instructions carefully provided in the Programme Guide. It is important that you write the answers to all the TMA questions in your own words. Your answers should be within the approximate range of the word-limit set for a particular section. Remember, writing answers to assignment questions will improve your writing skills and prepare you for the term-end examination.

As mentioned in the Programme Guide, you need to submit all the assignments within the stipulated time for being eligible to appear in the term-end examination.

The assignments should be submitted to the Coordinator of your Study Centre:
   1. **By 31 March, 2025 by the students who took admission in the Academic Cycle July, 2024**.
   2. **By 30th September, 2025 by the students who took admission in the Academic Cycle January, 2025**.

You must obtain a receipt from the Study Centre for the assignments submitted and retain it. If possible, keep a xerox copy of the assignments with you. The Study Centre will have to return the assignments to you after they are evaluated. Please insist on this.

The Study Centre has to send the marks to the Student Evaluation Division at IGNOU, New Delhi.

We expect you to answer each question as per guidelines for each category as mentioned in the assignment. You will find it useful to keep the following points in mind:

1) **Planning:** Read the assignments carefully, go through the Units on which they are based. Make some points regarding each question and then rearrange them in a logical order.

2) **Organisation:** Be a little selective and analytic before drawing up a rough outline of your answer. Give adequate attention to your introduction and conclusion.

    Make sure that your answer:

    a) is logical and coherent;

    b) has clear connections between sentences and paragraphs, and

    c) is written correctly giving adequate consideration to your expression, style and presentation.

3) **Presentation:** Once you are satisfied with your answer, you can write down the final version for submission, writing each answer neatly and underlining the points you wish to emphasize. Make sure that the answer is within the stipulated word limit.

Tutor Marked Assignments

Course Code: BECE-142
Assignment Code: Asst /TMA /2024-25
Total Marks: 100

Assignment 1

Answer the following Descriptive Category questions in about 500 words each. Each question carries 20 marks. Word limit does not apply in case of numerical questions.

1. (a) A research study involves examining the impact of Pradhan Mantri Jan Dhan Yojana initiative on the economically weaker section in the state of Madhya Pradesh. Suggest an appropriate research design (in terms of quantitative and qualitative research designs) to undertake such a study. Give reasons.   10

    (b) Discuss the difference between Univariate, Bivariate and Multivariate analysis?   10

2. (a) A study is conducted to find the relationship between city temperature on a single day and the elevation of the city. A random sample of various cities is presented in the following table: (you may solve this using Microsoft Excel)   10

Elevation (in feet)	7000	4000	6000	3000	7000	4500	5000
Temperature (∘F)	50	60	48	70	55	55	60

    (i)   Find a regression equation for elevation and city temperature on a given day.
    (ii)   Find the residuals and create a residual plot.
    (iii)   Use the regression equation to estimate the city temperature for the city situated at an elevation of 5500ft.
    (iv)   Find the correlation coefficient and coefficient of determination and interpret both.

    (b)   A study shows that there is a correlation between people who are obese and those that have cancer. Does that mean being obese causes cancer?   (6)

    (c)   A standard error of the estimate is a measure of the accuracy of predictions. Elucidate.   (4)

Assignment 2

Answer the following Middle Category questions in about 250 words each. Each question carries 10 marks. **10×3=30**

3. Do you think that Akaike information criterion (AIC) is superior to adjustment $\overline{R}^2$ criterion in determining the choice of Model? Give reasons and illustration in support of your answer. (10)

4. What do you mean by the term 'Logs' in the context of economic data? Give an account of the factors contributing to 'Log effect'. Give illustration in support of your answer. (10)

5. Distinguish between Logit model and Probit model. Explain with illustration the process involved in estimation of Logit model. (10)

Assignment 3

Answer the following Short Category questions in about 100 words each. Each question carries 6 marks. **(6×5=30)**

6. What are the various assumptions considered for running a multiple regression model? Are these assumptions different from the ones considered under simple regression model? (6)

7. What is the difference between random effects approach and fixed effects approach for estimation of parameters? State the assumptions of fixed effects model. (6)

8. "OLS is appropriate method for estimating the parameters of Binary dependent variable model"- Comment. (6)

9. What is meant by the problem of identification? Explain the conditions for identification. (6)

10. Make distinction between any three of the following: (6)

    (i) Type I and Type II errors.

    (ii) Research methodology and research methods.

    (iii) Sampling design and statistical design.

    (iv) Pooled cross section data and panel data.