BACHELOR'S DEGREE PROGRAMME

[B.A.G/B.Com G/B.Sc G/B.A. (H)]

ASSIGNMENT 2023-24

For July 2023 and January 2024 Admission cycle

COURSE CODE: BECS-184

DATA ANALYSIS

SCHOOL OF SOCIAL SCIENCES

INDIRAGANDHINATIONALOPENUNIVERSITY

MAIDAN GARHI, NEW DELHI-68

Dear Students,

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 skill enhancement course **BECS- 184Data Analysis**which is a four-credit course. The booklet therefore has two TMAs whose total marks add up to 100 and carry a weightage of 30%.

Assignment One is intended to test your ability to understand the topic in a systematic, to-the-point and coherent manner.

Assignment Two requires 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.

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 as per the following schedule:

1. **By 30th April, 2024 by the students who took admission in the Academic Cycle July, 2023**.
2. **By 31st October, 2024 by the students who took admission in the Academic Cycle January, 2024**.

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.

DATA ANALYSIS
Tutor Marked Assignments

Course Code: BECS-184
Assignment Code: Asst /TMA /2023-24
Total Marks: 100

Assignment One

Answer the following questions. Each question carries 20 marks

$2 \times 20 = 40$

1. The following table presents the number of hours a group of school students played video games during the weekends and the test scores attained by each of them in a test, the following Monday.

Time (in hours)	Test score
0	96
1	85
2	82
3	74
3	95
5	68
5	76
5	84
6	58
7	65
7	75
10	50

   (a.) It is believed that a linear relationship exists between the time spent on playing video games and test score attained. Find out the strength of this linear relationship.
   (b.) Estimate the line of best fit in the scenario. Use this line to find the expected test score for a student who plays video games for 9 hours.

2. A study involves testing whether or not the amount of caffeine consumed affected memory. Fifteen volunteers took part in this study. They were given three types of drink (type A,B and C) containing different levels of caffeine (50 mg, 100 mg, and 150 mg,

respectively). Volunteers were divided into three groups of five each and were assigned the drink groupwise. They were then given a memory test (In terms of number of words remembered from a list). The results are given in the following table:

Group A (50 mg)	Group B (100 mg)	Group C (150 mg)
7	11	14
8	14	12
10	14	10
12	12	16
7	10	13

At significance level of 5%, check whether the mean number of words remembered from the list by the participants belonging to the three groups are significantly different.

Assignment Two

Answer the following questions. Each question carries 12 marks.

5 X 12=60

3. a.) What could be a structured approach to multivariate model building?
   b.) What are the various assumptions on which the multivariate regression analysis rests?

4. Explain the following:
   a. ANOVA and MANOVA
   a. Normal distribution curve
   b. Snowball sampling techniques
   c. Degrees of freedom

5. What is the difference between census and survey? Explain the various stages involved in planning and organizing the censuses and surveys.

6. Differentiate between quantitative and qualitative research in the context of data analysis. Discuss tools of data collection used in qualitative research.

7. Differentiate between:
   a. Type I and type II errors
   b. Phenomenology and Ethnography
   c. t test and f test
   d. discrete and continuous variable