

BECS-184

BACHELOR'S OF ARTS PROGRAMME

(B.A.G)

ASSIGNMENT 2021

COURSE CODE: BECS-184

DATA ANALYSIS



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 **BECS-184 Data 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 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.

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. 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 before 31st October 2021. 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 /2021
Total Marks: 100

Assignment One

Answer the following questions. Each question carries 20 marks

$2 \times 20 = 40$

1. (a) In a lab experiment, some volunteers are given dose of antibiotics and its concentration in their blood is measured (in suitable units) at one hour intervals. Consider the data below:

Time (hours)	0	1	2	3	4	5	6
Concentration	2.4	4.3	5.0	6.9	9.1	11.4	13.5

- (i) It is believed that a linear relationship exists between these variables. Estimate the line of best fit in this scenario. (5)
- (ii) What will be the concentration post 3.5 hours? Also find out how long will it take for concentration to reach 8 units? (5)
- (b) Correlation does not imply causation. Do you agree? Give reason for your answer. (10)
2. (a) The heights (in inches) of adult females in Australia are believed to be normally distributed with mean μ . The average height of a random sample of 25 Australian adult females is found to be 69.72 inches, and the standard deviation is found to be 4.15. Write down the confidence interval for μ at 10% level of significance. (5)
- (b) Explain the characteristics of a normal distribution, and its usage in solving statistical problems. (15)

Assignment Two

Answer the following questions. Each question carries 12 marks.

$5 \times 12 = 60$

3. (a) A study involves finding the proportion of females opting to pursue higher education in a particular area. What type of data in terms of measurement scale will need to be captured for conducting such a study? Which method of central tendency will be suitable for this study? (6)

- (b) For making comparisons between data of varying units, which method of dispersion is used? Give reason. (6)
4. A study involves capturing the proportion of population that have undergone COVID testing in a particular district. For conducting such a study, which method of primary data collection is suitable? Briefly discuss the various stages involved in planning and organizing data collection using such a method. (12)
5. (a) Discuss various forms of Qualitative sampling techniques. (6)
- (b) Consider a research study aimed at studying characteristics of a rare disease. For conducting this research, a researcher is likely to use which sampling technique? Give reason for your answer. (6)
6. Differentiate between the following:
- (a) Two qualitative research design methods— Case study and Participatory Action Research (6)
- (b) Type I and Type II errors. Which among them is a relatively serious one? (6)
7. Attempt answering the following:
- (a) Coefficient of variance is considered a better measure of dispersion as compared to standard deviation. Do you agree? Give reason. (6)
- (b) What are the advantages of plotting a frequency polygon over a histogram? (6)