ASSIGNMENT

Subject- Business Statistics & Analytics For Decision Making
Faculty Name- Dr. Priyanka A. Nanotkar
Semester-1st   Session 2023-2024

Q1) **A welfare Organization introduced an education scholarship scheme for school going children of a backward village. The rates of scholarship were fixed as given below:**

Age Group (Years)	Amount of scholarship per Month (Rs.)
5-7	300
8-10	400
11-13	500
14-16	600
17-19	700

The age of 30 school children is: 11,8,10, 5,7,12,7,17,5, 13,9,8,10,15,7,12,6,7,8,11,14,18,6,13, 9,10,6,15,3,5 years respectively. Calculate Mean and Standard Deviation of monthly scholarship. Find out the total monthly scholarship amount being paid to the students. (CO- 01)

Q.2) Exemplifying the concept of rank correlation coefficient test, produce the rank correlation coefficient from the following data and interpret the coefficient and its sign. The following table shows the per capita income (in thousands) and food expenditure of the family in different cities of Maharashtra. **(CO-02)**

Per capita (income)	11	16	18	8	6	15	10	5
Expenditures	5	7	8	3	2	8	4	2

Q3. The lifetimes of certain electronic devices have a mean of 300 hours and standard deviation of 25 hours. Assuming that the distribution of these lifetimes, which is measured to the nearest hour, can be approximated closely with the normal curve. **(CO- 03)**

a) Find the probability that any one of these electronic devices will have lifetimes more than 350 hours.
b) What percentage has lifetimes of 300 hours or less?
c) What percentage will have lifetimes from 220 or 260 hours?

Q4. Montex Fertilizers is a leading fertilizer company with precision machinery. Its machine is set to mix 12 Kg of Nitrate in every 100 Kg bag of fertilizer. The company wants to check if the machine is working perfectly to what is set as mixing value of Nitrate. Ten bags of 100 Kg each are examined. The percentage of Nitrate mix is found to be 11, 14, 13, 12, 13, 12, 13, 14, 11, 12. Formulate and test the hypothesis that the there is no significant difference in quantity of Nitrate mix in different bags. The level of significance is 5%. **(CO- 04)**

Q5 **A)** Examine the role of business analytics in **(CO- 05)**

    i)   Retail business context
    ii)   Information Technology context
    iii)   Data Science context

*****THE END*****

Last date of submission of Assignment is **04th Oct 2023.**

➢ Assignment should be hand written & Physical/ hard copy is required to submitted.
➢ Attempt all the questions and submit assignment to the respected Faculty Member on or before Due date.
➢ If any problem/ query related assignment call or meet Dr. Priyanka A. Nanotkar
➢ Assignment should be written in A4 size Paper & Submit in Plastic Folder File.