

Anjuman Islam Janjira Degree College of Science
Murud-Janjira, Raigad-402401
Affiliated to University of Mumbai

Class: -F.Y.B.Sc C.S	Subject: - Descriptive Statistics
Semester:- I	Course code: -USCS106
Exam Event:- Additional Exam Summer 2024 (FH)	Marks: -75
Date: - 27/03/2024	Duration: - 02:30 Hours

- N.B. –**
- 1 – All questions are compulsory.
 - 2 – All questions have internal choice.
 - 3 – Figures to the right indicate full marks.

Q1. Answer the following question. (Any 4 out of 6) 20

1. Write a program on Matrix Subtraction.
2. The table given below obtained by student for an exam. Find the Mean, Median and Mode for that

Roll No	Marks
1	43
2	48
3	65
4	57
5	31
6	60
7	38
8	48
9	78
10	59

3. What are the different types of scale? Explain.
4. The weight (in grams) of 40 oranges picked at random from a basket are as follows; (45,55,30,110,75,100,40,60,65,40,100,75,70,60,70,95,85,80,35,45,40,50,60,65,55,45,90,85,75,85,75,110,100,80,70,55,30,70,35,40). Represent the data by means of histogram.
5. What is mean by Central Tendency? Write the measures of Central Tendency.
6. Find the value of Q_1 and Q_3 from the following data.

No.of Student	Marks more than
7	70
18	40
40	50
40	40
63	30
65	20

Q2. Answer the following question. (Any 4 out of 6) 20

1. Definition of Standard Deviation for Ungrouped data. Find the Standard Deviation for the following 25.
2. Explain Dispersion and Measure of Dispersion.

3. Find the Standard Deviation, Coefficient of SD, Variance & Coefficient of Variance for the following data.

Expenditure Below	Number of Students
5	9
10	18
15	30
20	48
25	36

4. Find first raw moments about the origin of a distribution are $-0.4, 2.99, -0.08, 27.63$. Calculate the moment about mean and also calculate β_1 and β_2 .
5. Find the Variance for the given data: $6, 3, 2, 5, 12, 18, 10, 8$. Find mean, Variance and co-efficient variance.
6. Write the characteristic of the following:
- Mean
 - Median
 - Mode

Q3. Answer the following question. (Any 4 out of 6)

20

1. Explain Types of Interpretation.
2. Find the line of best fit using least square method for the following data.

X	Y
2	4
3	5
5	7
7	10
9	15

3. Difference between Correlation and Regression
4. Find the correlation coefficient between X & Y given that $n=50$, $\sum(X_i-40) = 30$, $\sum(Y_i-20) = 70$, $\sum(X_i-40)^2 = 170$, $\sum(Y_i-20)^2 = 165$, $\sum(X_i-40)(Y_i-20) = 140$.
5. Explain effect of shift of change of origin and change of scale.
6. Explain measure of Correlation with example.

Q4. Answer the following question. (Any 5 out of 6)

15

1. Define Lines of Regression of X and Y.
2. Difference between Variable and Attribute.
3. Explain Characteristic of good measure of dispersion.
4. Find the co-efficient of determination for the following data. Find r and r^2 .

X	Y
70	3
110	45
130	21
82	7
93	16
60	62
88	12

5. Calculate the following Range and co-efficient of range for the following data value.
 $32, 35, 55, 85, 95, 84, 62, 77, 92, 68$
6. Write a program of R on Matrix Addition.