

End-Semester Examination : Statistics for Decision Making - 1

Time: 2 Hr.s

Date: 18th Nov. 2016

- Note: 1. Answer as much as you can. Maximum you can score is 50
2. Use of Calculator, RMMR Tables allowed

1. The operator of a certain machine suspected that the number of defectives produced in the machine in a shift has a relation with the speed of the machine. He collected data for 12 days which is as follows:

- Plot Scatter Diagram to explore the relationship and offer your comments.
- Find the Correlation Coefficient.
- Find out the Regression Line.
- Using the Regression Line, estimate that if the machine is run at a speed of 16, what will be the no. of defective in that shift.

M/c Speed	No. Defective
14.2	9
11.9	6
15.9	12
18.4	12
9.1	6
14.9	9
16.4	11
10.2	7
14.1	10
16.7	9
11.6	8
12.0	7

[16]

2. Using Random Number Table in "RMMR Tables", generate 20 random numbers.
Use the same to generate 10 random samples from Normal Dtn. with Mean = 10 and S.D. = 2.
[Show steps]

[12]

3. Potency values of a drug, measured on 20 samples from a batch, are as follows:

39.3 33.4 41.0 36.0 38.4 32.6 34.6 30.8 36.7 37.0
33.4 38.2 36.8 28.2 34.3 32.7 29.1 30.4 34.2 27.8

Use Normal Probability Paper and infer whether the data follows Normal Distribution.

Make a statement on the Mean and the S.D. [from the Probability Plot].

[12]

4. State and explain various methods of Sampling.

[10]

5. What are the 7 Simple Tools of Quality? State briefly their usage.

[10]