

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF MATHEMATICS
21MAB301TT- PROBABILITY AND STATISTICS
CLAT2 - REMEDIAL ASSIGNMENT
(AY 2022-23, EVEN)

- If X is a normal variate with $\mu = 30$ and $\sigma = 5$.
Find (i) $P(26 \leq X \leq 40)$ (ii) $P(X \geq 45)$ (iii) $P(|X - 30| \geq 5)$.
- In the test given to two groups of students the marks obtained were as follows:

Group	18	20	36	50	49	36	34	49	41
Group	29	28	26	35	30	44	46	-	-

Examine the significance difference between the means of marks secured by students of the above two groups.

- Obtain the rank correlation coefficient for the following data,

X	68	64	75	50	64
Y	62	58	68	45	81
X	80	75	40	55	64
Y	60	68	48	50	70

- A tea company appoints four salesmen A, B, C and D observes their sales in three seasons- summer, winter and monsoon. The sales in 1000 of units given below. Check if there is significant difference in the average sales of the 4 sales men and in 3 seasons? Perform Two-way classification.

	Sales man				
		A	B	C	D
	Summer	38	40	41	39
	Winter	45	42	49	36
	Monsoon	40	38	42	42

- Given below are the values of sample mean \bar{X} and sample Range R for 10 samples each of size 5. Draw the appropriate mean and Range charts and comment on the state of control of the process.

Sample no.	1	2	3	4	5	6	7	8	9	10
Sample Mean	12.8	13.1	13.5	12.9	13.2	14.1	12.1	15.1	13.9	14.2
Range	2.1	3.1	3.9	2.1	1.9	3.0	2.5	2.8	2.5	2.0

- 15 samples of 200 items each were drawn from the output of a process. The number of defective items in the samples are given below. Prepare a control chart for the p- chart and np-chart. Comment on the results.

Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No. of defectives(np)	12	15	10	8	19	15	17	11	13	20	10	8	9	5	8
