

NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR
DEPARTMENT OF MATHEMATICS

B. Tech. 4th Semester	Subject	Examination	Session	Time allowed	Max. Marks
CSE	Introduction to probability theory and statistics	Mid-term	Spring 2019	1.5 Hours	30

Note: Attempt all Questions

Q1: [C01] (a) For a group of 200 candidates, the mean and standard deviation of scores were found to be 40 and 15 respectively. Later on it was discovered that the scores 43 and 35 were misread as 34 and 53 respectively. Find the corrected mean and standard deviation corresponding to the corrected figures?

(b) [C01] Derive Factorial Moments of order 4 about the origin?

(5,5)

Q2: [C01] An incomplete frequency's distribution are given as follows:

Class:	0-5	5-10	10-15	15-20	20-25	25-30
Ist Weighing:	a	b	11	52	75	22
2 nd Weighing:	x	y	40	50	30	28

Given that the Median in the first weighing is 20.83 while in the second weighing is 17.35, and $a=(1/3)x$ and $b=(1/2)y$. Find out the values of the missing frequencies?

(10)

Q3: [C01] (a) Define Skewness. What are the different measures of skewness?

(b) [C01] Calculate the first four moments of the following distribution about the mean and hence find β_1 and β_2

x :	0	1	2	3	4	5	6	7	8
f :	1	8	28	56	70	56	28	8	1

(5,5)