SRM INSTITUTE OF SCIENCE & TECHNOLOGY	**SRM Institute of Science and Technology** **Department of Mathematics** **18MAB204T-Probability and Queueing Theory** **Module – II** **Tutorial Sheet - 9**

S.No.	Questions
	Part – A
1	A random sample of 10 boys had the following IQ's: 70, 120,110,101,88,83,95,98,107, 100. Does these data support the assumption of a population mean IQ of 100? Find a reasonable range in which most of the mean IQ values of samples of 10 boys lie.
2	The heights of 10 male of a given locality are found to be 70, 67, 62, 68, 61, 68, 70, 64, 64, 66 inches. Is it reasonable to believe that average height is greater than 64 inches? Test at 5% level of significance assuming that for 9 degrees of freedom?
3	Ten individuals are chosen at random from a normal population and their heights are found to be 63,63,66,67, 68,69,70,70,71,71 inches. Test if the sample belongs to the population where mean height is 66 inches?
4	A certain stimulus administered to each of the 12 patients resulted in the following increase of blood pressure: 5,2,8,-1,3,0,-2,1,5,0,4 and 6. Can it be concluded that the stimulus will in general be accompanied by an increase in BP?
	Part -B
5	Two horses A and B are tested according to the time (in seconds) to run a particular track with the following results: Horse A: 28 30 32 33 33 29 34 Horse B: 29 30 30 24 27 29 Test whether the two horses have the same running capacity?
6	Ten soldiers visit a rifle range for two consecutive weeks. For the first week their scores are 67, 24, 57, 55, 63,54, 56, 68, 33, 43 and during the second week they score in the same order 70, 38, 58, 58, 56, 67, 68, 72, 42, 38. Examine if there is a significant difference in their performance.
7	The average number if articles produced by two machines per day are 200 and 250 with standard deviations 20 and 25 respectively on the basis of records of 25 days production. Can you regard both the machines equally efficient at 1% LOS?
8	The scores of 8 candidates prior and after training are given below: Prior: 84 48 36 37 54 69 83 96 After: 90 58 56 49 62 81 84 86 Is the training effective?