07) In an intelligence test administered to 1000 students. the average was 42 & standard deviation was 24. find the number of students ① exceeding the score 50 & ⑪ between 30 & 54.

08) If a random variable X follows Poisson dist^n such that $P(x=1) = 2 P(x=2)$. find the mean & var. of dist^n. Find $P(x=3)$

09) If x is a normal variate mean 10 & S.D. 4 find
① $P(|x-14|<1)$, ⑪ $P(5 \le X \le 18)$ ⑪⑪ $P(x \le 12)$.

10). Find the probability that at most 4. defective bulbs will be found in a box of 200 bulbs if it is known that 2% of the bulbs are defective (Given $\bar{e}^4 = 0.0183$).

Normal dist^n & Poisson dist^n ↑

SAMPLING THEORY (LARGE & SMALL)
AI & ML/MECHANICAL /CIVIL / COMPUTER /ELECTRICAL/EXTC, Assignments I (REVISED SYLLABUS
2018 SEM IV)

Q.1) A random sample of 400 members is found to have a mean of 4.45 cms .Can it be reasonably regarded as a sample from a large population whose mean is 5 cms & variance is 4 cms.

Q.2)A sample of 100 sents is taken from a large population .The mean height of the students in this sample is 160 cm .Can it be reasonably regarded that in the population,the mean height is 165 cm & standard deviation is 10 cm ?

Q.3)The average of marks scored by 32 boys is 72 with standard deviation 8 while that of 36 girls is 70 with standard deviation 6.Test at 1 % level of significance whether the boy performs better than the girls

Q.4) A sample of size 10 has mean 40 and standard deviation 10 .construct 99% confidance interval for the population mean

Q.5)Ten individuals are chosen at random from a population and their heights are found to be 63,63, 64, 65,66,69,69,70,70,71 inches . Discuss the suggestion that the mean height of the universe is 65 inches.

Q.6)If two independent random sample of size 15 & 8 have respectively the following mean & population standard deviations, X_1 = 980 $,X_2$ = 1012
σ_1 = 75   , σ_2 =80
Test of hypothesis that μ_1 = μ_2 at 5 % level of significance (Assume the population to be normal)

Q.7)A certain injection administered to 12 patients resulted in the following changes of blood pressure ;
5 , 2 ,8 ,--1, 3, 0, 6, --2 , 1 , 5 , 0 , 4 . Can it be conducted that the injection will be in general Accompanied by an increase in blood pressure ?

Q.8)Investigate the association between the darkness of eye colour in the father and son from the following data :   colour of father s eyes

	Dark	Not dark	total
Dark	48	90	138
Not dark	80	782	862
total	128	872	1000

Q.9)The following table gives the number of accidents in a city during a week. Find whether the accidents are uniformly distributed over a week

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
No.accidents	13	15	9	11	12	10	14	84