School of Computer Science Engineering and Technology

Course-B.Tech.	**Type-** Core
Course Code- CSET240	**Course Name-** Probability and Statistics
Year- 2024	**Semester- 3rd sem (**Odd)
Date-21/10/2024 - 25/10/2024	**Batch-** 2023-2027

CO-Mapping

	CO1	**CO2**	**CO3**
Q1			√
Q2			√
Q3			√

Objectives

1. Students will be able to verify real life problems almost follow a normal distribution by using central limit theorem.
2. Students will be able to implement real life problems based on Normal distribution.

Lab -10 Set 1

Q1. Verify central limit theorem by following steps.

- **a.** Simulate samples from a uniform distribution between two numbers
- **b.** Find sample means for sufficient number of samples.
- **c.** Plot a histogram for the sample means
- **d.** Overlay a normal curve over the histogram

Q2. A computer lab has two printers. Printer I handles 40% of all the jobs. Its printing time is Exponential with the mean of 2 minutes. Printer II handles the remaining 60% of jobs. Its printing time is Uniform between 0 minutes and 5 minutes. A job was printed in less than 1 minute. What is the probability that it was printed by Printer I?
(Without using inbuilt functions)

Q3. Take a population of 1000 students and construct their scores by normal distribution having mean 75 and standard deviation 10. Find the proportion of students who have secured more than 80% marks. Plot the corresponding normal curve and show the required proportions by shading under the normal curve.