Enrollment No: _____

GANPAT UNIVERSITY
U. V. PATEL COLLEGE OF ENGINEERING
B. TECH- IV (COMPUTER ENGINEERING-ARTIFICIAL INTELLIGENCE)
FIRST INTERNAL EXAMINATION – MARCH 2023
2ES116: PROGRAMMING FOR SCIENTIFIC COMPUTING

Time: 1 Hour **Total: 20 Marks**

Instructions:

1) Figures to the right indicate full marks.
2) Make necessary assumptions wherever required.
3) Assume suitable data, if required.
4) The text just below marks indicates the Course Outcomes Nos, (CO) followed by Bloom's taxonomy level of the question, i.e., R: Remember, U: Understand, A: Apply, N: Analyse, E: Evaluate, C: Create

Q.1 Regardless of the distribution of the individuals, the distribution of the average of n samples will follow which distribution as n becomes large? Why ? [4] 1U

Q.2 Differentiate the Binomial and Poison distribution. [4] 1R

Q.3 A class has a mean score of 65 (μ=65) and a standard deviation of 7 (σ=7). Later 3 points are added to every student's score. What are the new values for the mean and standard deviation? [4] 1A

Q.4 A basket of strawberries has a mean weight of 2 ounces with a standard deviation of 0.35 ounces. What percentage of the strawberries in the basket have a weight between 1.5 and 2.5 ounces? [4] 1N

Q.5 A company is giving a drug test to all of its employees. The test is 90% accurate, given that a person is using drugs, and 85% accurate, given that the person is not using drugs. It's also known that 10% of the general population of employees uses drugs. What is the probability that an employee was actually using drugs, given that they tested positive? [4] 4A

Let P represent a positive test for an individual.

Let N represent a negative test for an individual.

Let D represent the event that an employee is a drug user.

--------END OF PAPER-------