

Department of Electrical and Electronic Engineering

Class test-03, Summer-2026, Sec- B

Course Code: 0542-221, Course Title: Probability & Statistics

Time: 30 Mints.

Marks: 15

1.	In a factory, two machines (Machine A and Machine B) produce capacitors. The probability that either Machine A or Machine B produces a defective capacitor is 0.12. The probability that Machine A produces a defective capacitor is 0.08, and the probability that Machine B produces a defective capacitor is 0.06. What is the probability that both Machine A and Machine B produce a defective capacitor at the same time?	5
2.	An Electrical and Electronic Engineering student is analyzing the defect rate of circuit boards in a manufacturing process. Every hour, <u>25 circuit boards</u> are inspected, and the <u>probability that a board is defective is 10%</u>. Using an appropriate probability distribution, find: i) The probability that 1 effective board is found in an hour. ii) The probability at most 2 effective boards are found in an hour. iii) The probability that more than 4 effective boards are found in an hour.	10