

INDIRA UNIVERSITY, PUNE

SCHOOL OF COMMERCE & ECONOMICS- BSC ECO

Term End Examination (2025 Pattern) April- May – 2026- Semester – II

Course Name: Intermediate Statistics
Course Code: 25ECO209T

Max. Marks: 25
Time: 1 Hr. 30 Minutes

Instructions

- Attempt all the questions.
- Use of scientific calculator is allowed

Q1.	Attempt all the following. 1. Given that $P(A) = 0.8$, $P(B) = 0.7$, $P(A \cup B) = 0.9$, what is $P(A \cap B)$? a) 0.56 b) 0.6 c) 0.06 d) 0 2. If three coins are tossed, number of outcomes is: a) 8 b) 6 c) 4 d) 9 3. Null hypothesis represents: a) New idea b) no effect c) final result d) sample value 4. Type I error means... a) Accepting true hypothesis b) Rejecting true hypothesis c) Accepting false hypothesis d) No error 5. The regression line is used to: a) Classify data b) predict values c) count observations d) test randomness	(5 Marks)	CO1
Q2.	Solve any one from the following. a) Define sampling. State any three advantages of sampling. b) State 2 differences between SRSWR and SRSWOR. A population consist of 10 units: {1,2,3,4,5,6,7,8,9,10} Draw a sample of size 3 using SRSWOR. OR	(10 marks) (5 Marks) (5 Marks)	CO3

Q2.	a) Define Sample space, probability and conditional probability. (5 Marks) b) A pair of unbiased coin is tossed. Find the probability of: (5 Marks) i) Getting both heads ii) Getting exactly one head iii) Getting at least one head iv) Getting no head v) Getting at the most one head													
Q.3	Solve any one from the following. (10 Marks) a) Define random variable and explain discrete and continuous random variable with example. (5 Marks) b) A random variable X takes values 1, 2, 3, 4 with probabilities 0.1, 0.2, 0.3, 0.4 respectively. Find: $P(X \geq 3)$, $P(X < 4)$, $P(X=2)$ (5 Marks) OR Q.3 a) What is Simple Linear Regression? Define the two regression coefficients. (5 Marks) b) Find the regression line X on Y for the following data: (5 Marks) <table><tr><td>X</td><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td></tr><tr><td>Y</td><td>3</td><td>5</td><td>9</td><td>10</td><td>15</td></tr></table>	X	2	4	6	8	10	Y	3	5	9	10	15	CO4
X	2	4	6	8	10									
Y	3	5	9	10	15									
