JHARKHAND Rai University RANCHI

End Semester/Reappear (Semester IV) Examination May 2025

Programme: BCA

Course: Statistics for BCA **Full Marks: 70**

Course Code:3CSEC201 **Time: 3 Hrs.**

Enrolment no. _____

Q. No.	Questions	CO	Bloom Taxonomy Category	Marks
	Section I			
1	**Short Answer type questions.**			**4 x 5 = 20**
a	State the Primary and secondary data.	CO1	Remember	
	or			
	Interpret the Histograms with example.	CO1	Understand	
b	Define the Arithmetic and weighted arithmetic mean with example.	CO2	Remember	
	or			
	Define Geometric mean and find the G.M. of the follwing1,3,9,3.	CO2	Understand	
c	Explain the Poisson distribution.	CO3	Understand	
	or			
	State the Bayes Theorem with example.	CO3	Remember	
d	Obtain the expectation of the number of tails preceding the first head in an indefinite series of tosses of the same coin.	CO3	Remember	
	or			
	Define the Continuous random variable with example.	CO3	Understand	
	Section II			
	Long Answer type questions.			**3 x 10 = 30**
2	Calculate the Quartiles of the following Distribution – Ages (Years): 15-20 | 20 - 25 | 25 – 30 | 30 – 35 | 35 – 40 | 40 – 45 | 45 – 50 | 50 -55 No. of Employees: 13 | 29 | 46 | 60 | 112 | 94 | 45 | 21	CO4	Evaluate	
	or			
	Calculate the Quartiles of the following Distribution – Ages: 50 | 52 | 54 | 58 | 60 | 62 | 64 | 66 | 68 | 70 Frequency: 4 | 12 | 18 | 23 | 30 | 26 | 22 | 16 | 5 | 4	CO4	Evaluate	
3	In a bolt factory Machines A, B, C manufacture respectively 25%, 35% and 40% of total. If their output 5, 4 and 2 are defective bolt. A bolt is drawn at random from the product and is found to be defective. What is the probability that it was manufacture by Machine B.	CO3	Evaluate	
	or			
	In as group of 100 Computer buyers, 40 bought CPU, 30 purchased monitor, and 20 purchased CPU and monitors, If a Computer buyer chose at random and bought a CPU, what is the probability they also bought a Monitor?	CO3	Analyze	

4	The overall percentage of failures in a certain examination is 40. What is the probability that out of group of 6 candidates at least 4 passed the examinations?	CO3	Analyze	
	or			
	The probability function of random variable x is as follows: X: 0 1 2 3 4 5 6 P(X): 0.11 0.16 0.23 0.23 0.27 0.15 0.08 Find the probability function of the variable y, where $y = 2x^2+3$	CO3	Evaluate	
	Section III			
	Application based questions			**1 x 20 = 20**
5	a. Calculate the probability distribution of 3 success from a total of 10 independent trials where the probability of success on each trial is 0.3. b. If a random variable has a Poisson distribution such that, P(2) = P(3) find P(5) and P(8)	CO3	Analyze	
	or			
	a Explain the Binomial distribution formula with nation. b. If 20% of the bolts produced by machine are defective determine the probability that out of 4 bolts drawn (i) One defective (ii) at the most two are defective.	CO3	Analyze	

Course Outcomes

After the successful completion of the course, the students will be able to:

CO1: To acquaint students with various statistical methods.

CO2: To cultivate statistical thinking among students.

CO3: To prepare students for future courses having quantitative components.