

School of Computer Applications and Technology
Bachelor of Computer Applications
End Term Examination – May 2024
Duration: 3 Hours
Max Marks: 100
Sem 6 – Data Analytics with Python (E1UA601T)

1)	Differentiate between discrete and continuous random variables.	K1 (2)
2)	Explain how is the best-fitting line determined in Simple Linear Regression?	K2 (4)
3)	If two dice are thrown , what is the probability that the sum is a) Greater than 8 b) less than 6 c) neither 7 nor 11	K2 (6)
4)	Apply ROC analysis to evaluate the performance of a binary classifier. Given a dataset with 100 instances, where the classifier correctly predicts 80 positive instances and 10 negative instances, calculate the True Positive Rate (TPR) and False Positive Rate (FPR).	K3 (9)
5)	What do you mean by address, value and data type? How to print the address, value, and data type of a variable in a python program?	K3 (9)
6)	Evaluate the impact of outliers on parameter estimates in Maximum Likelihood Estimation (MLE) and propose strategies	K5 (10)
7)	Compare simple linear regression and multiple linear regression?	K4 (12)
8)	Given the data points (1, 3), (2, 5), (3, 7), (4, 9), calculate the least squares regression line and use it to predict the value of y for x = 5.	K5 (15)
9)	Conclude the importance of cluster analysis and explain its applications.	K5 (15)
10)	Elaborate the concept of different evaluation metrics used in machine learning analysis such as accuracy, precision, recall, sensitivity, specificity, TPR, FPR, and ROC.	K6 (18)