

II-Mid Semester Exam May- 2025
Branch: CSE/AL Semester: IV
LNCS/AL-404 Machine Learning and Pattern Recognition

Time 1:30 Hrs

Max. Marks 20

Note: All questions are compulsory and have internal choice.

Ques.1: Explain the concept of **linear regression** with an example. How do we estimate the coefficients in simple linear regression. (CO3 7 Marks)

OR

What is **multiple linear regression**? Write the steps to compute multiple regression coefficients.

Ques.2: Describe **logistic regression**. How is it used for binary classification? (CO4 7 Marks)

OR

Explain how to **make predictions** using a logistic regression model. Give a simple example.

Ques. 3: What is **Linear Discriminant Analysis (LDA)**? Explain LDA for $p = 1$ with a diagram. (CO5 6 Marks)

OR

What is the Bayes theorem for classification? Write a short note on quadratic discriminant analysis.