

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1EXAMINATION- 2025

B.Tech-VII Semester (CSE/IT)

COURSE CODE (CREDITS): 19B1WCI738 (3)

MAX. MARKS: 15

COURSE NAME: INTRODUCTION TO DEEP LEARNING

COURSE INSTRUCTORS: Vani Sharma

MAX. TIME: 1Hour

**Note:** (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1.	Represent the derivative of a sigmoid function in terms of sigmoid itself.	1	[3]
Q2.	What will happen if the value of lambda is increased in case of linear regression with L1 regularizer?	1	[2]
Q3.	Describe the role of the cost function in logistic regression and how it differs from the cost function used in linear regression. Provide a formulaic representation.	2	[2]
Q4.	Describe the steps involved in adjusting the parameters of a multiple linear regression model using Stochastic Gradient Descent algorithm.	1	[4]
Q5.	Write the cost function minimized in Locally Weighted Regression and explain the significance of weights. Show that when $\tau \rightarrow \infty$ , Locally weighted regression reduces to Ordinary Linear Regression.	1,2	[4]