JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- APRIL-2023

COURSE CODE(CREDITS): 18B1WCI843 (3)   MAX. MARKS: 25

COURSE NAME: Data Analytics

COURSE INSTRUCTORS: Dr. Rakesh Kanji   MAXTIME: 1 Hour 30 Minutes

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

[1] Find out the parameters α_1, α_2 with the assumption of having Ordinary or linear relationship among the dataset. Consider X as dataset and Y as respective output. [CO3] [5]

$$X=\begin{bmatrix} 2 & 4 \\ 4 & 12 \end{bmatrix} \text{ and } Y=\begin{bmatrix} 2 \\ 3 \end{bmatrix}$$

[2] Explain the role of loss function? Why do we use convex as ideal loss function? [CO2] [2+1]

[3] Address the problem of OLS to classify two class problem. How logistic regression can handle that problem?   [CO1,CO2] [1+2]

Or

Explain the idea of K-nearest neighbor with an example.   [CO1,CO2] [3]

[4] Perform logistic regression with the cross entropy and squared loss function with single independent variable.   [CO2,CO3] [5]

[5] Explain the aim of using ANOVA with an example? Can we have alternative as t-test if so then why we are using ANOVA?   [CO1,CO2] [2+2]

[6] Find out the whether Getting marks is related to breakfast by ANOVA.   [CO3] [5]

Groups	OBSERVATION (Marks obtained by students)				
No Breakfast	8	7	9	13	10
Light Breakfast	14	16	12	17	11
Full Breakfast	10	12	16	15	12