Name:		
Enrolment No:		

UPES
End Semester Examination, May 2023

Course: Cognitive Analytics
Semester: 8th
Program: BTech
Course Code: CSBA 4017P

Time: 03 hrs.
Max. Marks: 100

Instructions: There are three sections. Attempt all questions.

Q. No.	Question	Marks	CO
	SECTION A		
1	Explain the working architecture of cognitive computing.	4	1
2	Mention some use case scenarios of cognitive analytics.	4	1
3	Write the different category of optimization algorithms to tune a neural network model in enhancing the prediction capability of the network.	4	2
4	Describe some cognitive analytics tools.	4	1
5	Explain different type of service models in cloud computing.	4	3
	SECTION B		
6	Describe machine learning and it differences from traditional ways of computation.	10	2
7	Imagine you are working on a project which is a binary classification problem. You trained a model on the training dataset and got the below confusion matrix on the validation dataset. 			

n=165	Predicted: NO	Predicted: YES
Actual: NO	50	10
Actual: YES	5	100

Based on the above confusion matrix, calculate the following metrics.

(a) Accuracy   (b) Misclassification Error
(c) True Negative Rate (d) True Positive Rate

Q. No.	Question	Marks	CO
7		10	1
8	Elaborate on the training and evaluation process of neural network model.	10	2

9	Why is feature engineering required? Explain any one wrapper-based feature selection method with suitable example	10	3
SECTION-C			
10	Explain residuals, RSS, RSE and p-value with its formulas/conditions. Use some suitable examples. **OR** Explain the life cycle of Data Mining project.	20	2
11	Describe the essential characteristics of cloud computing and cognitive services offered by cloud service providers. **OR** Explain the challenges and limitations faced in providing cognitive services by cloud service providers.	20	3