Enrolment No: _____

GANPAT UNIVERSITY

U. V. PATEL COLLEGE OF ENGINEERING

B. TECH (COMPUTER ENGINEERING with AI)

SEM – VI FIRST INTERNAL EXAMINATION FEBRUARY-MARCH 2023

2CEAI601: DEEP NEURAL NETWORK

Time: 1 Hour **Total Marks: 20**

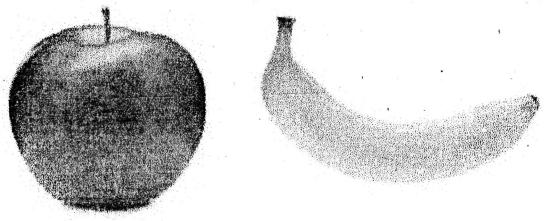
Instructions:
1. Figures to the right indicate full marks of the question.
2. Make suitable assumptions wherever necessary.
3. Text just below marks indicates the Course Outcome number (CO) followed by the blooms taxonomy level of the question i.e. R: Remembering, U: Understanding, A: Applying, N: Analysing, E: Evaluating, C: Creating.

Q-1 How does the perceptron learn? Show its limitation with suitable example. [4] 1R

Q-2 Solve the following example with perceptron learning and evaluate the final weights and bias. Initial weights and bias are 0. Choose appropriately θ (Threshold parameter) [6] 2E
Class 1 : [-2, 1], [2,-1] and [2, 1] , target = 1
Class 2 : [-2,-1], target = -1

OR

Q-2 Consider the following Banana and Apply fruit grey images and you are required to classify each fruit. Identify the features to distinguish these fruits. Which technique will you choose between perceptron and back-propagation? Compare and state your reasons. [6] 2E



Q-3 Compare Stochastic gradient descent with Gradient descent with momentum and AdaGrad. [6] 2A

Q-4 Briefly explain sigmoid and softmax activation function and compare sigmoid and softmax. [4] 1U

---------- End of Paper----------