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Roll No. .....

TMC–402

M. C. A. (FOURTH SEMESTER)
MID SEMESTER
EXAMINATION, May, 2023

DEEP LEARNING

Time : 1½ Hours

Maximum Marks : 50

Note : (i) Answer all the questions by choosing any ***one*** of the sub-questions.

(ii) Each sub-question carries 10 marks.

1. (a) What do you understand by computational graph ? Write the steps involved in creating a computational graph in tensor flow. (CO1)

OR

(b) What are activation functions ? Why do we use activation functions ? Explain with their mathematical expressions. (CO1)

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2. (a) What do you understand by gradient descent ? What is the value at which gradient of sigmoid function is maximum ? Calculate. (CO1)

OR

(b) Write a short note on tensor board, Keras. (CO1)

3. (a) Write basic terminology for artificial neural networks. (CO1, CO2)

OR

(b) Explain different types of gradient descent. (CO1, CO2)

4. (a) What do you understand by functional units of artificial neural networks ?, (CO2)

OR

(b) Which function do the perception realize if there are two inputs and corresponding weight values –1, –1 (there is no threshold function). There is also a bias weight of 1.5. (CO2)

5. (a) Let $x = [-1, 0, 3, 5]$ be the input of ith layer of a neural network. On this, we Want to apply softmax function. What should be the output of it ? (CO2)

OR

(b) What is sparse activation ? Which of the activation function leads to sparse activation maps ? (CO2)