R20 Regulation *Subject code: 3E6EL*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.TechVI Semester Regular Examinations, June/July2023

DEEP LEARNING

(CSE)

Maximum Marks: 70 Date:03.07.2023 **Duration: 3 hours**

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10 X 2 Marks=20 Marks)

1 Mention the different types of gradient-based learning.
2 State the effect of early stopping.
3 What is an optimization problem in deep learning?
4 Which CNN model has the highest accuracy?
5 Can bidirectional RNNs be used for language modeling?
6 Define computer vision.
7 List out the two types of autoencoders.
8 What is transfer learning in deep learning?
9 Can deep learning be applied to both structured and unstructured data?
10 What are the benefits of structured modeling?

Part-B

Answer All the following questions. (5 X 10 Marks=50 Marks)

11 A. What are the steps in back propagation algorithm? 5 Marks
B. Explain architectural design of deep feed forward network. 5 Marks

OR

12 A. Describe the advantages of semi-supervised learning? 5 Marks
B. How is noise used as regularizer? Justify. 5 Marks

13 A. Explain algorithm with adaptive learning rates. 5 Marks
B. Explain pooling with suitable diagrams. 5 Marks

OR

14 How learning differs from pure optimization, challenges in neural network optimization? 10 Marks

15 A. What is the difference between CNN and recursive neural network? 5 Marks
B. Describe the advantages of recurrent neural network. 5 Marks

OR

16 A. Explain with suitable diagram of encoder and decoder architecture. 5 Marks

B. Discuss about the long short-term memory with a neat diagram. 5 Marks

17 A. Briefly explain about layer size and depth in neural network. 5 Marks

B. What are the two forms of transfer learning in deep learning? Discuss. 5 Marks

OR

18 A. Describe the use cases of autoencoders. 5 Marks

B. Write short notes on distributed representation. 5 Marks

19 A. What are graphical models used for? Explain. 5 Marks

B. How would you describe a deep learning model? 5 Marks

OR

20 A. Explain probabilistic model with example. 5 Marks

B What is the difference between inference and approximate inference in deep learning? 5 Marks