



R18 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

Subject code:208EB

B.Tech VIII Semester Supplementary Examinations, April 2024

Artificial Neural Networks

(Computer Science and Engineering)

Maximum Marks: 70

Date:27.04.2024 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

(10X2M=20 Marks)

- 1 Define ANN.
- 2 Define Adaptation.
- 3 What is Newton's method in Unconstrained Optimization Technique?
- 4 What is the learning curve of LMS algorithm?
- 5 Discuss the use of network pruning?
- 6 What is Jacobian matrix?
- 7 Define Competitive process?
- 8 What are the essential processes involved in the formation of Self-organizing map?
- 9 What is hyperbolic attractor?
- 10 Name different Neuro Dynamical Models?

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 A. What are the different classes of Network Architectures? [4M]  
B. Discuss the following learning rules. [3M+3M]  
I. Error correction learning. II. Memory based learning.  
OR
- 12 Describe various types of activation functions with their expressions and benefits. [10M]
- 13 Explain signal flow graphical summary of back propagation learning showing forward pass and backward pass. [10M]  
OR
- 14 What is the perceptron learning algorithm and examine its convergence. [10M]
- 15 What is cross validation? Explain how it is used to design a large Neural network with good generalization? [10M]  
OR
- 16 What is network pruning and describe network pruning techniques? [10M]
- 17 Discuss different properties of Feature Map? [10M]  
OR
- 18 A. What are the two Basic Feature Mapping Models? Explain briefly? [5M]  
B. What is meant by learning vector quantization, explain briefly? [5M]
- 19 A. Demonstrate Dynamical Systems? [5M]  
B. Write and explain the definitions of Stability in Equilibrium States? [5M]  
OR
- 20 Write a detailed note on Hop field Models? [10M]