

- Q.17 Discuss about architecture of supervised networks.  
(CO3)
- Q.18 Explain perception training algorithm for single output classes.  
(CO2)
- Q.19 Write comparison between adaptive linear neuron network and multiple adaptive linear neuron network.  
(CO2)
- Q.20 Explain architecture of Back propagation network.  
(CO1)
- Q.21 Write the applications of neural networks. (CO4)
- Q.22 Discuss about character recognition networks.  
(CO4)

#### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Define neural network. Discuss the basic model of neural network. Write the advantages of neural networks.  
(CO1)
- Q.24 Discuss about multiple adaptive linear neuron networks in detail.  
(CO3)
- Q.25 What is Robot kinematics. Explain in detail the process identification networks for it. (CO4)

No. of Printed Pages : 4  
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### 3rd Sem / Artificial Intelligence & Machine Learning

#### Subject : Neural Networks

Time : 3 Hrs.

M.M. : 60

#### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 Why do we need biological neural networks? (CO1)
- a) to solve tasks like machine vision & natural language processing
  - b) to apply heuristic search methods to find solutions of problem
  - c) to make smart human interactive & user friendly system
  - d) all of the mentioned
- Q.2 What is unsupervised learning? (CO3)
- a) features of group explicitly stated
  - b) number of groups may be known
  - c) neither feature & nor number of group is known
  - d) none of the mentioned

- Q.3 What is the full form of ANNs? (CO1)
- Artificial Neural Node
  - Ai Neural Networks
  - Artificial Neural Networks
  - Artificial Neural Numbers
- Q.4 Which of the following is not a Machine Learning Strategies in ANNs? (CO2)
- Unsupervised Learning
  - Reinforcement Learning
  - Supreme Learning
  - Supervised Learning
- Q.5 The network that involves backward links from output to the input and hidden layers is called \_\_\_\_\_ (CO3)
- Self organizing map
  - Perceptrons
  - Recurrent neural network
  - Multi layered perceptrons
- Q.6 Which of the following is an Applications of Neural Networks? (CO4)
- Automotive
  - Aerospace
  - Electronics
  - All of the above

## SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 In artificial neural network interconnected processing elements are called \_\_\_\_\_. (CO1)
- Q.8 Automated vehicle is an example of \_\_\_\_\_ learning. (CO4)
- Q.9 Neural Networks are complex \_\_\_\_\_ with many parameters. (CO1)
- Q.10 On an average neural networks have higher computational rates than conventional computers. (True/False) (CO2)
- Q.11 \_\_\_\_\_ is also called exploratory learning. (CO3)
- Q.12 Write the two types of Robot kinematics. (CO4)

## SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Write comparison between artificial and biological neural networks. (CO1)
- Q.14 Discuss about supervised, unsupervised and reinforcement learning. (CO3)
- Q.15 Explain Feed Forward neural networks. (CO2)
- Q.16 Write a short note on Hebbian learning rule. (CO2)