

### SECTION-D

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

- Q.23 What is a neural network. How it can be related to a biological network? Discuss the basic model of neural network. (CO1)
- Q.24 Write comparison between adaptive linear neuron, multiple adaptive linear neuron and back propagation networks. (CO3)
- Q.25 What is a character recognition network? How the handwritten character recognition is done? Explain in detail. (CO4)

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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 The complexity of ANN is dependent upon \_\_\_\_\_? (CO1)
- a) Number of Neurons b) Number of Nodes  
c) Number of Anodes d) Number of Layers
- 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 groups is known  
d) none of the mentioned
- Q.3 Which is true for neural networks? (CO1)
- a) it has set of nodes and connections  
b) each node computes it's weighted input  
c) node could be in excited state or non-excited state  
d) all of the mentioned

- 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 perceptron
- Q.6 Automated vehicle is an example of (CO4)
- Supervised learning
  - unsupervised learning
  - active learning
  - reinforcement learning

### 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 Define neuro software. (CO4)
- Q.9 Full form of ANN. (CO1)

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- Q.10 The \_\_\_\_\_ is a single layer feed forward network. (CO2)
- Q.11 \_\_\_\_\_ is also called exploratory learning. (CO3)
- Q.12 Write two advantages of Neural Networks. (CO1)

### SECTION-C

- Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)
- Q.13 Write difference between supervised and unsupervised learning. (CO3)
- Q.14 Write comparison between artificial and biological neural networks. (CO1)
- Q.15 Explain Feed Forward neural networks. (CO1)
- Q.16 Write a short note on perception learning rule. (CO2)
- Q.17 Discuss about architecture of supervised networks. (CO3)
- Q.18 Explain perception training algorithm for single output classes. (CO2)
- Q.19 Draw the architecture adaptive linear neuron network. (CO3)
- Q.20 What is a Back propagation network. Discuss in brief. (CO1)
- Q.21 Write the applications of neural networks in different fields. (CO4)
- Q.22 Write a short note on Robot Kinematics. (Co4)

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