No. of Printed Pages : 2

BICSE-003

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

00034

Term-End Examination

December, 2016

BICSE-003 : NEURAL NETWORK

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any* ***seven*** *questions. All questions carry equal marks. Assume the missing data, if any.*

1. Discuss the analogy between biological and artificial neural networks. *10*

2. With the help of a suitable diagram, discuss the functioning of a simple artificial neuron. Explain how the functionality is affected if two such neurons are connected in series. *6+4*

3. Discuss back propagation algorithm for a multilayer network. *10*

4. What do you understand by Associative Networks ? In this context, explain the working of a Hopfield Network. *10*

5. Write an algorithm to implement simulated annealing. *10*

6. Discuss Hebb's rules in context to the following : *2×5=10*

   (a) Supervised learning

   (b) Unsupervised learning

7. What do you mean by Knowledge Engineering ? Explain the various stages of Knowledge Acquisition. *10*

8. (a) What is Fuzzy set theory ? *5*

   (b) How is Fuzzy logic useful in Neural Networking ? *5*

9. Explain Radial Basis Function (RBF) network for function approximation, with one output unit and L hidden units. Draw a suitable diagram. *10*

10. Discuss the role of

    (a) Selection,

    (b) Cross-over, and

    (c) Mutation

    in the context of a genetic algorithm. *4+3+3*
