LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.C.A. DEGREE EXAMINATION – **COMPUTER APPLICATIONS**

FIFTH SEMESTER – NOVEMBER 2016

CA 5955 - NEURAL NETWORKS USING MATLAB

Date: 14-11-2016 Dept. No. Max. : 100 Marks
Time: 09:00-12:00

Part-A

Answer ALL Questions **(10 * 2= 20)**

1. What is knowledge based processing?
2. Compare symmetrical and asymmetrical connections.
3. Explain the node properties of a neural network.
4. Define ART network.
5. Distinguish between open system and closed system
6. What is a Version space approach?
7. What are the different kinds of connectionist representation?
8. Write the features of Parallel models.
9. What is Adaptive clustering
10. What is a static neural network?

Part – B

Answer ALL Questions **(5 * 8= 40)**

11. a) Explain Hopfield network algorithm for Autoassociation model.

(or)

b) In a single layer perceptron, unit 1 receives inputs from units 2 and 3 given that

$W_{1,2}= -3$ $W_{1,3}= 2$ $X_2= 1$ $X_3= 1$ $\Theta_1= 1$ $\eta= 0.3$ Calculate O1

12. a) Write short notes on ID3 algorithm.

(or)

b) Explain Decision tree based Neural network in detail.

13. a) Write short notes on Probabilistic Neural network.

(or)

b) Explain version spaces and COBWEB algorithm in detail.

14. a) Explain Hybrid network models in detail.

(or)

b) Explain Parallel network models in detail

15. a) Explain Time-Delay neural networks in detail.

(or)

b) Explain Static Neural Network in detail.

Part – C

Answer any TWO Questions **(2 * 20= 40)**

16. Discuss the different classification models for perceptron in detail -20 Marks.

17. a) Discuss Neural network learning by Backpropagation algorithm.

    b) Discuss Graph based approaches in Neural network

18. a) Explain Kohonen's self-organizing nets in detail

    b) Use the ID3 algorithm to build a decision tree for classifying the following objects:

Class	Size	Color	Surface
A	Small	Yellow	Smooth
A	Medium	Red	Smooth
A	Medium	Red	Smooth
B	Big	Red	Rough
B	Medium	Yellow	Rough
B	Medium	Yellow	Rough

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