MSIT 4E 33 (OS)

IV Semester M.Sc. (I.T.) Examination, June/July 2010
COMPUTER COGNITION
(Old Syllabus)

Time : 3 Hours Max. Marks : 75

Instruction : *Answer* ***all*** *questions from Part* ***A*** *and answer* ***any five*** *questions from Part* ***B***.

PART – A

1. What are the features of biological neurons ? **(12×2+1×1=25)**
2. List any two simulated tools for Computer Cognition.
3. What are AXON and Synaptic Junction ?
4. What are types of Artificial Neural Networks classified based on learning strategy ?
5. What is the capacity of a perceptron ?
6. What is function approximation ?
7. What is curse of dimensionality ?
8. What is Hebbian Learning ?
9. What is massive parallelism ?
10. What is Cross over and mutation ?
11. What is fault tolerance ?
12. Mention the applications of ES.
13. What is AND function ?

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PART – B

Answer **any five** : **(5×10=50)**

1. What is Artificial Neural Network ? What are the tasks performed by artificial neural network ? Explain its characteristics.

2. State and prove Perception convergence Theorem.

3. What is a convex hull ? Can a three-layer BP network solve any classification problem ? Explain.

4. Discuss the learning algorithms for a fixed RBF Neural network.

5. Explain Basic principles and Applications of Self Organization.

6. Write a Growing Cell Structure Algorithm and mention its applications.

7. a) What are the differences between uni-modal and multi-modal functions ?

   b) Explain working of a simple genetic algorithm.

8. Explain the following :

   a) EP and GAS

   b) Mapping.

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