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Question Paper Code: 47064

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Seventh Semester

Instrumentation and Control Engineering

14UIC704 – APPLIED SOFT COMPUTING

(Regulation 2014)

Duration: One hour

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

- Artificial neural network used for _____
 - Pattern Recognition
 - Classification
 - Clustering
 - All of these
- Ability to learn how to do tasks based on the data given for training or initial experience _____
 - Self Organization
 - Adaptive Learning
 - Fault tolerance
 - Robustness
- Perceptron is _____
 - General class of approaches to a problem
 - Performing several computations simultaneously
 - Performing several computations simultaneously
 - Simple forerunner of modern neural networks, without hidden layers
- Feature of ANN in which ANN creates its own organization or representation of information it receives during learning time is _____
 - Adaptive Learning
 - Self Organization
 - What-If Analysis
 - Supervised Learning
- Traditional set theory is also known as Crisp Set theory.
 - True
 - False

6. How many types of random variables are available?

- (a) 1 (b) 2 (c) 3 (d) 4

7. Fuzzy logic is usually represented as

- (a) IF-THEN-ELSE rules (b) IF-THEN rules
(c) Both a & b (d) None of the mentioned

8. _____ is/are the way/s to represent uncertainty.

- (a) Fuzzy Logic (b) Probability
(c) Entropy (d) All of the mentioned

9. Which of the following(s) is/are found in Genetic Algorithms?

- (a) Evolution & Selection (b) Economics
(c) Reproduction (d) Mutation

10. Genetic algorithm can be used to determine _____

- (a) Membership function (b) Probability
(c) Fault tolerance (d) Robustness

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Draw the structure of biological neuron and explain the function of each parts.

(8)

12. Describe the algorithm of discrete time hopfield network with its architecture.

(8)

13. Discuss briefly the properties of crisp sets.

(8)

14. What are the membership functions used in fuzzification process? Discuss it briefly.

(8)

15. Describe the basics of genetic algorithm and its applications.

(8)