

Total No. of Questions : 8]

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Roll No

MCSE-205**M.E./M.Tech., II Semester**

Examination, June 2017

Soft Computing

Time : Three Hours

Maximum Marks : 70

- Note :** i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Explain the problems in hill climbing techniques along with way to solve this problem. 7
b) Define Soft computing. Explain its importance. How is Soft computing different from Hard computing? 7
2. a) What is non-monotonic reasoning? Explain default logic, abduction, inheritance, the closed world assumption and circumscription. 7
b) Explain Dempster Shafer Theorem by taking one example. 7
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3. a) What is Unsupervised Learning? Discuss Kohonen's self organizing networks in detail. 7
b) Explain the Hebbian Learning Rule. 7
4. a) Discuss Back Propagation Network with necessary formulae and support your answer with neat sketch. 7
b) What do you mean by linear separable problem? Give appropriate example for the same problem. Also state the differences between radial basis function networks and multi-layer perceptrons. 7

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5. a) Sketch the architecture of full counter propagation network. How are CPN nets used for function approximation? 7
b) Give a brief note on support vector machine. Discuss its importance. 7
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6. a) What is Mamdani type fuzzy inference? Compare Mamdani and Sugeno systems. 7
b) Discuss the following terms of fuzzy set theory in brief : 7
i) Core
ii) Support
iii) Cross over points
7. a) What is Travelling Salesman problem? Explain cross-over operation for the solution of the same problem using genetic algorithm. 7
b) Write the need of defuzzification in fuzzy set theory. Enlist and explain different methods of defuzzification in brief. 7
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8. a) Write the differences between classical algorithm and genetic algorithm. Explain different types of cross-over methods in genetic algorithm with example. 7
b) Write short notes : (Any Two) 7
i) Swarm Intelligence
ii) Fuzzy Associative Memory
iii) Bayesian Networks

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