

Code No: 157DW**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, July/August - 2022****SOFT COMPUTING****(Information Technology)****Time: 3 Hours****Max.Marks:75****Answer any five questions
All questions carry equal marks**

- 1.a) Give an overview of soft computing and evolutionary computing.
b) Differentiate between hard computing and soft computing with examples. [8+7]
- 2.a) What are the characteristics of soft computing? Explain.
b) Discuss about the recent trends in soft computing. [7+8]
- 3.a) Explain the basic concepts of fuzzy sets and its representations.
b) What are the special properties defined on Binary Fuzzy Relations? Discuss. [8+7]
- 4.a) Discuss about Fuzzy Complements, t-norms and t-conorms.
b) What are the properties of Intuitionistic Fuzzy Relations? Explain. [6+9]
- 5.a) Explain Particle Swarm Optimization algorithm and its implementation.
b) Discuss fuzzification and defuzzification with examples. [8+7]
- 6.a) What is Fuzzy Decision Making? Explain about Multiperson Decision Making.
b) Explain the Hybrid models of Particle Swarm Optimization algorithm. [8+7]
- 7.a) What are the applications of genetic algorithm? Discuss.
b) What do you mean by crossover and mutation? Explain different types of crossover and mutation techniques. [7+8]
- 8.a) Explain about the Fuzzy-genetic algorithm with suitable illustrations.
b) What are Rough Fuzzy Sets? Explain Rough Fuzzy C-Means Algorithm. [8+7]

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