M.E. First Semester (Information Technology) (Full Time) (C.G.S.)

13423 : Elective-I : Intelligent Systems : 1 NMEF 5

P. Pages : 2 | AW - 3475

Time : Three Hours | Max. Marks : 80

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Notes : 1. Due credit will be given to neatness and adequate dimensions.
2. Assume suitable data wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.
4. Use of Mobile Phone is prohibited.
5. Use of pen Blue/Black ink/refill only for writing the answer book.

1.	a)	What is Rule-based knowledge representation? Explain the advantages of the Rule-based knowledge representation.	7
	b)	List and explain the different inference rules.	7
		OR	
2.	a)	Explain the forward chaining Algorithm.	8
	b)	Explain symbols, semantics and terms in brief.	6
3.	a)	Explain Expert system along with its advantages.	7
	b)	What are the stages in the development of an expert system. Briefly discuss the issues involved in it.	6
		OR	
4.	a)	Explain Expert system along with applications of Expert Systems.	6
	b)	Describe the steps required to select the right tools for an Expert system.	7
5.	a)	Explain- i) Max-min composition ii) Max-star composition iii) Max-Product composition	6
	b)	Explain fuzzy Relation Inferences.	7
		OR	
6.	a)	List and explain the different operations of fuzzy sets.	6
	b)	List and explain the different properties of fuzzy sets.	7
7.	a)	Describe the architecture of Artificial Neural Networks with the help of neat diagram.	7
	b)	List and explain the different factors influencing back propagation training.	6

OR

8.	a)	Explain input delay feed-forward back propagation Neural Network in brief.	7
	b)	Explain vector and matrix notation in brief.	6
9.	a)	Explain the following- i) Multipoint crossover ii) Mutation operator	6
	b)	Draw and explain the flowchart of Genetic algorithm.	7

OR

10.	a)	Explain the structure of an evolutionary programming algorithm.	6
	b)	What is sampling space? Explain Regular sampling space.	7
11.	a)	Explain Biological Ant colony system in brief.	7
	b)	What is particle swarm optimization (PSO)? Explain the characteristics features of PSO.	7

OR

12.	a)	Explain probabilistic transition rule in brief.	7
	b)	Explain various types of Ant colony models.	7

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