

G. Narayanamma Institute of Technology & Science

(Autonomous)

(for Women)

Shaikpet, Hyderabad- 500 104

IV-B.Tech I-Semester Regular/Supplementary Examinations, December-2022.

ARTIFICIAL INTELLIGENCE (Computer Science and Engineering)

Max. Marks: 70

Time: 03 Hours

Note:

1. Question paper comprises of **Part A** and **Part B**.
2. **Part A** is compulsory which carries 10 marks. Answer all questions in Part A.
3. **Part B** (for 60 marks) consists of **five questions** with **“either” “or”** pattern. Each question carries 12 marks and may have a,b,c as sub questions. The student has to answer any one full question.

PART-A

(Answer 05 questions. Each question carries 2 marks)

Q.No	Question	Marks	CO	Bloom's Level
<i>Q.1</i>	a) Define Agent.	[02]	CO3	[L1]
	b) What is Resolution?	[02]	CO1	[L1]
	c) Mention the phases in building expert systems.	[02]	CO3	[L2]
	d) What are the advantages of SVM model?	[02]	CO5	[L1]
	e) Define Recurrent network.	[02]	CO5	[L1]

END OF PART A

PART-B

(Answer 05 full questions. Each question carries 12 marks)

Q.No	Question	Marks	CO	Bloom's Level
<i>Q.2(a)</i>	Explain about A* algorithm in detail with an example.	[08]	CO2	[L5]
	(b) List and explain the properties of environments.	[04]	CO3	[L1]
OR				
<i>Q.3(a)</i>	Define heuristic search? What are the advantages of heuristic search?	[06]	CO2	[L2]
	(b) List different types of agents. Discuss any two in detail.	[06]	CO3	[L6]

<i>Q.4(a)</i>	What is Natural Deduction System? Explain in detail.	[06]	CO1	[L5]
	(b) Discuss constraint satisfaction algorithm with an example.	[06]	CO2	[L2]
OR				
<i>Q.5(a)</i>	Differentiate Propositional logic and Predicate logic.	[06]	CO4	[L3]
	(b) What is optimal decisions in games. Explain min-max procedure with an example.	[06]	CO2	[L5]

- Q.6(a)** Describe different types of knowledge required to build an expert system. [06] CO3 [L2]
(b) Explain the knowledge representation using frames. [06] CO3 [L5]

OR

- Q.7(a)** What are frames? How do they differ from semantic nets? [06] CO3 [L5]
(b) Differentiate between Expert system and Traditional system. [06] CO3 [L2]

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- Q.8(a)** Discuss in detail about Bayes theorem and Bayesian belief network in Probability Theory. [06] CO4 [L6]
(b) Compare Supervised, Unsupervised and Reinforcement learning. [06] CO5 [L5]

OR

- Q.9(a)** Discuss the strengths and weaknesses of decision tree method. [06] CO4 [L6]
(b) Explain different types of clustering techniques. [06] CO4 [L5]

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- Q.10(a)** Describe the structure of artificial neuron. How is it similar to a biological neuron? Build the perceptron for OR gate. [06] CO5 [L6]
(b) Explain about semantic web and its applications in real world scenario. [06] CO1 [L4]

OR

- Q.11(a)** List and explain the applications of Natural Language Processing. [06] CO6 [L1]
(b) Explain basic structure of a multilayer feed forward network. [06] CO5 [L5]

END OF PART B
END OF THE QUESTION PAPER