Code No: R2021431 **R20** SET - 1

II B. Tech I Semester Regular Examinations, Feb/March - 2022
INTRODUCTION TO ARTIFICIAL INTELLIGENCE
CSE (Artificial Intelligence)

Time: 3 hours Max. Marks: 70

Answer any **FIVE** Questions each Question from each unit
All Questions carry **Equal** Marks
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1	a)	Outline four basic kinds of agent programs that embody the principles of intelligent systems and explain each one in detail.	[10M]
	b)	Explain various development phases of AI. Describe the importance of knowledge based systems, neural networks, scientific methods, intelligent agents and working with huge data sets.	[4M]

Or

2	a)	Give the schematic view of the learning agent. How the components of agent program work together? Explain.	[7M]
	b)	Write about various fields that contributed ideas, viewpoints and techniques to AI.	[7M]
3	a)	Describe the five components used for formulating well-defined problems and solutions. Explain with an example.	[7M]
	b)	Present algorithm for searching AND-OR graphs generated by non-deterministic environments and explain the role of try and try again operations in it..	[7M]

Or

4	a)	What is uninformed search strategy? Explain breadth first search, uniform-cost search and bidirectional search strategies in detail.	[7M]
	b)	Write the concepts of optimization problems, local minima and global minima. How these are obtained by hill climbing search algorithm? Illustrate it with 8-queens problem.	[7M]
5	a)	Present the simple algorithms for generic knowledge-based agent and explain how it can be fully autonomous in taking actions.	[7M]
	b)	How to perform representation with objects through ontological engineering? Explain with suitable examples.	[7M]

Or

6	a)	Write about the truth tables constructed for knowledge base and general algorithm for deciding entailment in propositional logic.	[7M]
	b)	What is Internet shopping world problem? How it helps the buyer to products by following links and compares offers on the Internet? Explain.	[7M]
7	a)	Describe the process of constructing the Bayesian networks. How do they help in designing inference procedures?	[7M]
	b)	Write about the concepts of full joint distributions, marginalization, conditioning and normalization.	[7M]

Or

8	a)	How to represent the knowledge in uncertain domain with Bayesian networks? Explain with example.	[7M]
	b)	How do agents handle uncertainty? Summarize its properties and related decisions taken by agents.	[7M]
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9	(i)Describe the scope of AI in future. (ii)Write its application in developing human less autonomous vehicles and on its rate of success.	[7+7M]
	Or	
10	(i)Can machines really think or act intelligently. (ii)Explain the evolution of AI development and elaborate on advantages and disadvantages.	[7+7M]