



Roll No:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**BTECH**  
**(SEM VI) THEORY EXAMINATION 2023-24**  
**ARTIFICIAL INTELLIGENCE**

**TIME: 3 HRS****M.MARKS: 100****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****2 x 10 = 20**

a.	Differentiate between an agent and a rational agent.	02
b.	What is artificial intelligence? Why is modern world of engineering trying to focus on it?	02
c.	Describe logic and semantics in AI.	02
d.	What do you understand by Propositional logic? Write the disadvantage of using it in AI.	02
e.	What do you understand by utility theory? What are the advantages it holds for AI?	02
f.	What are the advantages and disadvantages of using Learning with observation?	02
g.	What is Perceptron? How is it related to networking in AI?	02
h.	What is function? How generalization of a function holds advantage over averaging?	02
i.	What are the roles given to NLP in AI?	02
j.	Define robotics? What are the benefits of using AI in robotics?	02

**SECTION B****2. Attempt any three of the following:****3 x 10 = 30**

a.	Explain the various parameters for the selection of an agent with an example.	10
b.	Explain the syntax and semantics of First Order Logic.	10
c.	Construct a bayesian network and explain how it helps in making decision with the existing problem.	10
d.	What is reinforcement learning? What is the need for learning and how it is different from inductive learning? Write its applications.	10
e.	What are the specific advantages of using various communicating agent? Explain the contribution of intelligent agent in Artificial Intelligence.	10

**SECTION C****3. Attempt any one part of the following:****1 x 10 = 10**

a.	What is a learning agent? With the help of a sketch explain the various components needed to build an agent?	10
b.	What are the needs of search algorithms for a problem? Explain the heuristic function for Depth First Search (DFS) with an example.	10

**4. Attempt any one part of the following:****1 x 10 = 10**

a.	What is Propositional Theorem proving? Explain the various concepts used under the same with the help of an example.	10
b.	How is the knowledge represented in a logical agent and helps to become intelligent? Explain with the help of an example.	10

**5. Attempt any one part of the following:****1 x 10 = 10**

a.	What is Planning and how it is related to AI? What the various types of Planning? Differentiate between Forward and Backward state-space	10
----	--	----



PAPER ID-410714

Roll No:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**BTECH**  
**(SEM VI) THEORY EXAMINATION 2023-24**  
**ARTIFICIAL INTELLIGENCE**

**TIME: 3 HRS****M.MARKS: 100**

	programming.	
b.	What is Probability theory and how Bayes' rule is associated with it? Explain with the help of an example how it helps in making decision for Doctors.	10

**6. Attempt any *one* part of the following: 1 x 10 = 10**

a.	Define Learning. Differentiate between Supervised Learning and Unsupervised Learning.	10
b.	Explain learning in Neural Network using a suitable example.	10

**7. Attempt any *one* part of the following: 1 x 10 = 10**

a.	What is Robot? Describe the architecture of the robot with the help of a neat and labeled sketch? Also, what changes it will make in the conventional machines?	10
b.	What are the features of an Image Processing technique? Compare the role of vision for navigation and manipulation of an object.	10

QP24EP1\_290  
/ 26-Jun-2024 9:11:21 AM | 117.55.242.132