CODE: GR18A3050	GR 18	SET - 1

III B.Tech I Semester Regular Examinations, Feb/Mar 2021

ARTIFICIAL INTELLIGENCE

(Common to CSE & IT)

Time: 3 hours **Max Marks: 70**

Instructions:

1. Question paper comprises of **Part-A** and **Part-B**
2. **Part-A** (for 20 marks) must be answered at one place in the answer book.
3. **Part-B** (for 50 marks) consists of **five questions with internal choice,** answer all questions.

PART – A

(Answer ALL questions. All questions carry equal marks)

10 * 2 = 20 Marks

1. a.	What is Artificial Intelligence?	**[2]**
b.	State the relationship between Intelligence and Knowledge.	**[2]**
c.	What is wumpus world?	**[2]**
d.	Write the rules of inference for propositional logic.	**[2]**
e.	State the Bayes rule.	**[2]**
f.	What is skolemization?	**[2]**
g.	List the various forms of learning.	**[2]**
h.	Define Markov model.	**[2]**
i.	Specify various Image Operations.	**[2]**
j.	What is Robot Hardware?	**[2]**

PART – B

(Answer ALL questions. All questions carry equal marks)

5 * 10 = 50 Marks

2.	**(a)** What is Alpha cut off and Beta cut off in alpha beta pruning?	**[10]**
	(b) Write Min-max algorithm.	

OR

3.	Write and explain Best first search algorithm with an example. Specify its advantages over DFS and BFS algorithms.	**[10]**
4.	**(a)** Write Forward chaining algorithm and explain.	**[10]**
	(b) Explain resolution in first order logic.	

OR

5.	Using Resolution refutations , prove the following:	**[10]**
	If a triangle is equilateral then it is isosceles.	

* If a triangle is isosceles then two sides AB & AC are equal.

* If AB &AC are equal then angle B & angle C are equal.

*ABC is an equilateral triangle.

Prove angle B is equal to angle C

6. **(a)** Explain Bayesian networks with example. **[10]**

(b) What is probability and write the Bayes theorem?

OR

7. Describe various approaches which are used to handle Uncertain information. **[10]**

8. **(a)** What is a Transitional model in markov process? Give an example. **[10]**

(b) Explain how inference done in temporal models.

OR

9. **(a)** Explain Inductive learning and specify its advantages and disadvantages. **[10]**

(b) Write about bagging and boosting techniques.

10. **(a)** Write about various edge deduction techniques. **[10]**

b) Illustrate Image segmentation process in image analysis.

OR

11. **(a)** Compare Robot Perception and planning. **[10]**

(b) Discuss about Robot software architecture.

*****