ADAMAS UNIVERSITY PURSUE EXCELLENCE	**ADAMAS UNIVERSITY** **END-SEMESTER EXAMINATION : MAY 2021** (Academic Session: 2020 – 21)		
Name of the Program: (Example: B. Sc./BBA/MA/B.Tech.)	B.Tech ECE	**Semester:**	VIII
Paper Title :	Artificial Intelligence	**Paper Code:**	ECS44101
Maximum Marks :	40	**Time duration:**	3 hours
Total No of questions:	8	**Total No of Pages:**	2
(Any other information for the student may be mentioned here)			

Answer all the Groups

Group A

Answer all the questions of the following $5 \times 1 = 5$

1. a) What is a rational agent?
b) Define artificial intelligence
c) Distinguish between supervised and unsupervised learning
d) List 4 application areas of artificial intelligence
e) What is Turing test?

GROUP –B

Answer *any three* of the following $3 \times 5 = 15$

2. Distinguish between model based reflex agent and goal-based agent.

3. Explain modus ponens with truth table. Provide some examples of its usage. [3+2]

4. Write the propositional/predicate logic for the statement [1x5]
a. Some people like the rain
b. Atleast one person is asleep
c. Nobody failed in mathematics.
d. Greedy kings are bad
e. If the train is late, take the bus.

5. Explain the benefits of depth limited search over BFS and DFS.

GROUP –C

Answer *any two* of the following $2 \times 10 = 20$

6. Describe the A* Algorithm with a short example. How is it better than Best First Search? [5+5]

7. Write a short note on Genetic Algorithm. What is the impact of crossover and mutation probability. [7+3]

8. Illustrate the structure of the perceptron. How does a perceptron model a logistic regression? Discuss the backpropagation algorithm? [3+3+4]
