PAPER ID-310614

Roll No: | | | | | | | | | | |

B.TECH.
(SEM VII) THEORY EXAMINATION 2020-21
ARTIFICIAL INTELLIGENCE

Time: 3 Hours *Total Marks: 70*

Note: **1.** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 7 = 14**

Qno.	Question	Marks	CO
a)	What is heuristic function?	2	CO1
b)	Write the difference between supervised and unsupervised learning.	2	CO4
c)	List down the characteristics of agent.	2	CO1
d)	List some of the uniform search technique.	2	CO2
e)	Differentiate between forward and backward chaining.	2	CO3
f)	What is bay's rule?	2	CO5
g)	Define reinforcement learning.	2	CO4

SECTION B

2. Attempt any *three* of the following: **7 x 3 = 21**

Qno.	Question	Marks	CO
a.	Explain DFS algorithm with suitable example.	7	CO2
b.	Define a well-formed formula (wff) and List some of the rules of inference.	7	CO3
c.	What are Statistical learning models? Show with suitable example.	7	CO4
d.	Define PCA. Differentiate between Principle Component Analysis (PCA) and Linear Discriminant Analysis (LDA).	7	CO5
e.	Explain state space approach for solving any AI problem.	7	CO1

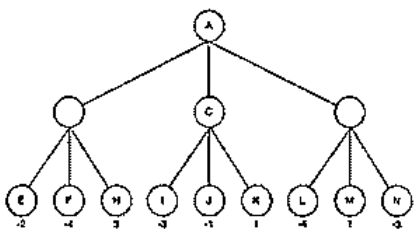
SECTION C

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

Qno.	Question	Marks	CO
a.	Describe the four categories under which AI is classified with examples.	7	CO1
b.	List various components of natural language understanding process. Describe syntactic analysis and semantic analysis in brief.	7	CO1

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

Qno.	Question	Marks	CO
a.	Explain Alpha-Beta pruning? Solve the following question-	7	CO2



AKTU QP20E290QP | 25-Feb-2021 13:41:24 | 117.55.242.131
https://quescol.com | Free PYQs, Solutions, Syllabus, Notes etc

PAPER ID-310614

Roll No:

b.	Discuss Constraint Satisfaction problem with an algorithm for solving a Cryptarithmetic problem BASE + BALL GAMES	7	CO2

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

Qno.	Question	Marks	CO
a.	Explain resolution in predicate logic with suitable example.	7	CO3
b.	Trace the operation of the unification algorithm on each of the following pairs of literals: I. f(Marcus) and f(Caesar) II. f(x) and f(g(y)) III. f(Marcus, g(x, y)) and f(x, g(Caesar, Marcus)).	7	CO3

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

Qno.	Question	Marks	CO
a.	Define decision tree? Explain it's with suitable example.	7	CO4
b.	How can use Expectation-Maximization (EM Algorithm) in machine learning? Explain with appropriate example.	7	CO4

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

Qno.	Question	Marks	CO
a.	Give the block diagram of pattern recognition system. Explain in brief.	7	CO5
b.	What do you mean by support vector machine (SVM)? Explain in detail with suitable example.	7	CO5

quescol.com
AKTU QP20E290QP | 25-Feb-2021 13:41:24 | 117.55.242.131
AKTU QP20E290QP | 25-Feb-2021 13:41:24 | 117.55.242.131
https://quescol.com | Free PYQs, Solutions, Syllabus, Notes etc