

**DEPARTMENT OF Computer Science & Technology**

*“T2 Examination, March-2020”*

**Semester**: 4th **Date of Exam**: 23/03/2020.

**Subject**: Artificial Intelligence **Subject Code**:CSH205B-T

**Branch**: B Tech. CSE **Session**: Evening

**Course Type:** Hard **Course Nature:** Core

**Time**: 90 Minutes **Program:** B.Tech.

**Max.Marks**: 30 **Signature: HOD/Associate HOD:**

***Note****: Part A: All questions are compulsory.*

*Part B: Attempt any 2 questions.*

**PART A**

Q1. a) Differentiate between breadth first search and depth first search. [2]

b) Differentiate between data and knowledge. [2]

c) Define each of the following three problems encountered in the Hill Climbing Algorithm

along with a diagram for each:

i) Plateau ii) Ridge iii) Local maximum [2X3=6]

**PART B (any 2)**

Q2 Write the A\* algorithm. Carry out the dry run of the algorithm on the following tree where the goal node is Y: [4+6]

T-9

2

6

V-3

U-3

2

3

5

Y-0

X-5

W-3

2

Z-5

Q3 Write the best-first algorithm. Carry out the dry run of the algorithm on the following tree where the goal node is G. [4+6]

A-7

C-2

B-4

G-0

F-2

E-6

D-3

Q4. a. Differentiate between the hill climbing algorithm and the best first search

algorithm. [4]

b. What will be the heuristic function for each of the following: [3+3]

i) The game of chess

ii) Hill climbing problem.

Justify your answer in each case.