



THE OPEN UNIVERSITY OF SRI LANKA
BSc (IT) DEGREE PROGRAMME: LEVEL 04
CONTINUOUS ASSESSMENT TEST 02: SEMESTER 2 - 2022/2023
COU4303: ARTIFICIAL INTELLIGENCE

DURATION: ONE HOUR (1 HOUR)

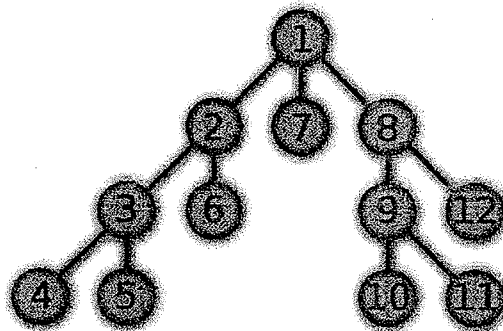
Date: 07.10.2023
a.m.

Time: 10.30 a.m. to 11.30

Answer ALL questions.

1)

- a) Consider the following example. If you need to searching for value 7. Write out the correct order of the nodes when searching through the following search algorithms.
- Depth first search
 - Breadth-first Search
 - Iterative Deepening Depth-first Search



(21 Marks)

- b) What are the four evaluation criteria in the Search strategies?

(04 Marks)

- c) Why does the greedy best first search is not considered as not optimal, and not complete? Explain in your own words.

(08 Marks)

2)

- a) Explain these four terms in your own words in backtracking.
- Most Remaining Values (MRV)
 - Most Constraining Variable
 - Least Constraining Value
 - Forward Checking

(20 Marks)

b) Explain the following terms regarding logical agents

- i. Knowledge base
- ii. Entailment
- iii. Knowledge
- iv. Reasoning

(16 Marks)

c) Name two (02) games which are deterministic and with imperfect information.

(04 Marks)

d) What is a **Game Tree** in a game? Explain in your own words.

(07 Marks)

e) Consider a scenario, where one person is going from Colombo to Kandy and the other from Kandy to Colombo. Write a description in Problem Domain Definition Language (PDDL) to accomplish the above.

Consider they are doing the actions, getting on train as **GetOnTrain**, getting off the train as **GetOffTrain** and train is going as **Go**.

(20 Marks)

All right reserved