SECOND ASSIGNMENT
JUNE SEMESTER 2021

BACHELOR OF COMPUTER SCIENCE (HONS.)
(IN COLLABORATION WITH IUKL)

ARTIFICIAL INTELLIGENCE
(CSC 3201)

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GENERAL INSTRUCTIONS

1. This question booklet consists of 3 pages including this page.
2. There is one **SECTION** in this question booklet.
3. Please submit assignment solution in **SOFT COPY (PDF FORMAT).**

SECTION A **(30 Marks)**

This section consists of THREE (3) questions. Answer all question.

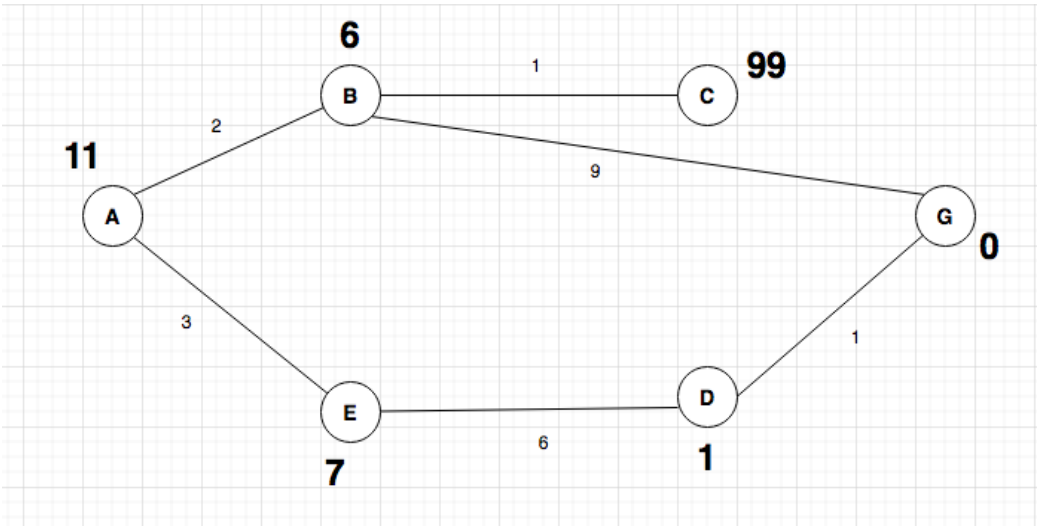
1.

a) Describe A* Search and its condition for optimality.

(5 marks)

b) For the graph given below, use A* algorithm to find the most cost effective path to reach from start state A to goal state G.

(10 marks)



NOTE: The numbers written on edges represent the distance between the nodes while the numbers written on nodes represent the heuristic values.

2.

Using appropriate Truth table, prove the following logical equivalences:

a)Implication Elimination

(5 marks)

b) Biconditional Elimination

(5 marks)

3. For each english sentence below, write **FOL** sentence that best expresses its intended meaning:

a) Some students took french in spring 2001.

(1 marks)

b) Every student who takes french passes it.

(1 marks)

c) No person buys an expensive policy.

(1 marks)

d) Every person who buys a policy is smart.

(1 marks)

e) There is a barber who shaves all men in town who do not shave themselves.

(1 marks)

*****END OF QUESTIONS*****