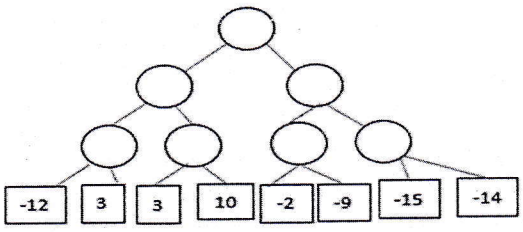
K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

July - August 2025
~~May-June 2025~~

(B. Tech.) Program: Computer Engineering Scheme IIB
Supplementary ~~Regular~~ Examination: TY Semester: VI
Course Code: CEC604 and Course Name: Artificial Intelligence
Date of Exam: 05/08/25 Duration: 02.5 Hours Max. Marks: 60

Instructions:
(1)All questions are compulsory.
(2)Draw neat diagrams wherever applicable.
(3)Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	**Solve any two questions out of three: (05 marks each)**	10		
a)	What do you mean by rationality? Also explain the factors affecting rationality.		CO1	U
b)	Identify PEAS descriptor for Online shopping recommendation agent.		CO2	AP
c)	How AI is useful in daily life? Associate it to real life by giving 5 suitable examples related to healthcare/ retail/banking.		CO6	U
Q 2	Solve any **two** questions out of three: (05 marks each)	10		
a)	Describe components of AI program.		CO1	U
b)	Formulate a problem for Travelling Salesman Problem.		CO2	AP
c)	Briefly explain disadvantages of Hill Climbing algorithm.		CO3	U
Q.3	Solve any **two** questions out of three. (10 marks each)	20		
a)	 Apply the alpha beta pruning on following example by considering		CO3	AP

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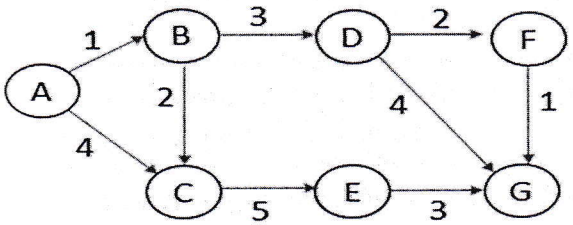
	root node as MAX.			
b)	Convert the following sentences into FOL. 1. Students like AI. 2. Students studies everything they like. 3. Gargi is a student. Prove by resolution " Gargi studies AI" Also Explain any 2 knowledge representation techniques in AI.		CO4	AP
c)	Explain Partial order planning with example along with planning graph.		CO5	U
Q.4	**Solve any two questions out of three. (10 marks each)**	20		
a)	 Find the optimal path along with cost for the following graph using A* algorithm. A is start state and G is Goal state. State h(n) A 5 B 6 C 4 D 3 E 3 F 1 G 0		CO3	AP
b)	Explain forward chaining and backward chaining in detail.		CO4	U
c)	Illustrate Reinforcement learning with types of learning.		CO5	U

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