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

May-June 2024-25

(B. Tech) Program: Computer Engineering Scheme I/II/IIB/III: IIB

Regular Examination: TY Semester: VI

Course Code: **CEC604** and Course Name: **Artificial Intelligent**

Date of Exam: 27/5/2025 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)	Explain local beam search. Explain Turing test approach.		CO1	U
b)	Identify the PEAS descriptor and problem formulation of N-queen problem		CO2	Ap
c)	Compare between propositional logic and first order logic. (3M) Apply FOL on the following clauses(2M) i) Every child loves Santa ii) Everyone who loves Santa loves any reindeer		CO4	Ap
Q 2	**Solve any two questions out of three: (05 marks each)**	10		
a)	Explain depth iterative deepening search with example		CO3	U
b)	Explain partial order planning. Apply it to solve the problem of socks wearing.		CO5	Ap
c)	Explain depth iterative deepening search with example .		CO2	U
Q.3	**Solve any two questions out of three. (10 marks each)**	20		
a)	Explain climbing algorithm and drawbacks in hill climbing(5+5)		CO3	U
b)	EExplain reinforcement learning and the role of statistical learning. (5+5)		CO5	U
c)	Consider the following facts:		CO4	Ap

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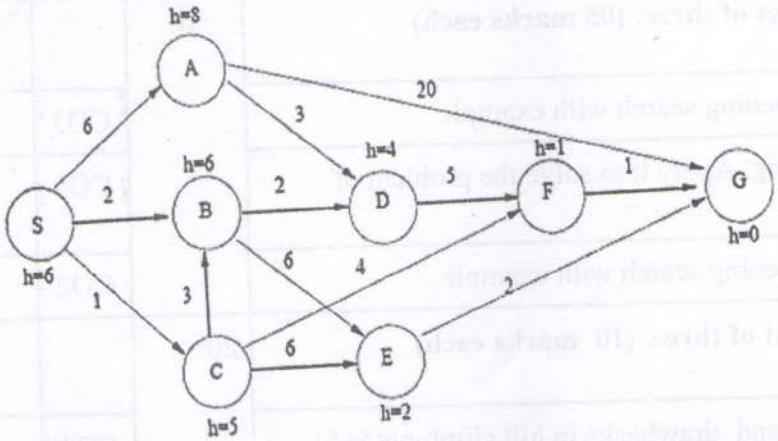
	1. Ravi likes all kinds of food. 2. Apples and eggs are food 3. Anything anyone eats and is not killed is food 4. Ajay eats peanuts and is still alive 5. Rita eats everything that Ajay eats Prove by resolution that **Ravi likes peanuts** using resolution i) Represent the above facts into FOPL. (6M) ii) Convert into clause form. (2M) iii) Draw resolution tree (2M)			
Q.4	**Solve any two questions out of three. (10 marks each)**	20		
a)	Explain expert system architecture in detail.		CO6	U
b)	Apply A* algorithm on the figure shown below. Find the optimal path from initial state S to goal states G. Heuristic values h(n) are shown in the figure  		CO3	Ap
c)	Explain forward and backward chaining with example		CO4	U

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