



**SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE
(AUTONOMOUS)**

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**I MID TERM EXAMINATIONS
DESCRIPTIVE EXAMINATION**

Class: III B. Tech I Semester

Program: CSE

Course Name: Artificial Intelligence

Course Code: B20CS3104

AY: 2024-25

Date: 1-9-2024

Max. Marks: 15 M

Duration: 1 ½ Hrs

Answer ONE Question from Each Unit

All Questions Carry Equal Marks

	UNIT-I	CO	KL	M
1.	Describe the state space search of water jug problem with suitable solution. Does the water jug problem solution is unique or it has multiple solutions. if it has unique solution write the solution. if it has multiple solutions write any two possible solutions to the water jug problem	CO1	K2	5
	OR			
2	Differentiate any path problems and best path problems in AI Differentiate ignorable, recoverable and irrecoverable solutions in AI	CO1	K3	5
	UNIT-II			
3.	Describe A* algorithm. Write the Suitable heuristic function to solve the 8 puzzle problem using A* algorithm. Explain how OPEN and CLOSED data structures are updated while solving 8 puzzle problem.	CO2	K2	5
	OR			
4.	Explain Constraint Satisfaction algorithm and Apply Constraint Satisfaction algorithm to solve following crypt arithmetic problem. 'SEND+MORE =MONEY'	CO2	K3	5
	UNIT-III			
5.	Convert the following natural language sentences to predicate logic 1. Marcus was a Man 2. All Pompeian's were Romans 3. Everyone is loyal to someone. 4. All Men are Mortal 5. Caesar was a Ruler	CO3	K3	5
	OR			
6.	Convert the following natural language sentences to predicate logic	CO3	K3	5

1. John likes all kinds of food.			
2. Apples are food	3. Rice is food		
4. Anything any one eats and he is not killed is food.			
5. Bill eats peanuts and is still alive			

OBJECTIVE EXAMINATION

Max.Marks: 10 Marks

Duration: 20 Min.

Answer ALL Questions & Each Question Carries ½ Mark

1)	A.Turing developed a technique called -----for determining whether a computer could or could not demonstrate the artificial Intelligence, a) Turing test b) Turing Machine c) AO* d) AO*	
2)	The properties of knowledge are : a) Huge b) constantly changing c) difficult to characterize correctly d) All	
3)	The use of heuristic will--- a) Always give exact solution. b) always moving away from goal c) improve the efficiency of search d) none	
4)	Which of the following are said to be the refinements of a good control strategy ---- a) only BFS b) only DFS c)Both BFS and DFS d) None	
5)	Which is true regarding DFS a) will get trapped exploring a single path b) It is good for solving TSP c) DFS is guaranteed to find a solution if exists d) All are true	
6)	Which is true regarding BFS a) will get trapped exploring a single path b) It is good for solving TSP c) BFS is guaranteed to find a solution if exists d) All are true	
7)	Which of the following will give efficient solution to TSP a) Brach and bound b) Combinatorial explosion c) Nearest neighbour d) None	
8)	In combinatorial explosion solution to TSP number of paths will be ---- a) 2N! b) (N-1)* N c) N! d) 2N	
9)	Which of the following is an example of solution steps are irrecoverable a) 8-puzzle problem b) Chess c) water jug problem d) TSP	
10)	Which of the following is an example of solution steps are ignorable a) 8-puzzle problem b) Theorem Proving c) Cards d) TSP	
11)	Combination of BFS and DFS, and switch over from current path to the another best path is happen in ----- a) Water Jug Problem b) TSP c) Best First Search d) Means ends analysis	
12)	An AO* algorithm represents an -----graph for the problem reduction a) OR graph b) AND Graph c) AND-OR Graph d) None	
13)	Combination of Forward reasoning and backward reasoning is used in ----- a) Water Jug Problem b) TSP c) Best First Search d) Means ends analysis	
14)	----- is a variation of generate and test in which the test function is augmented with heuristic function. a) Hill climbing. b) Means ends analysis c) Both d) None	
15)	---- is the second step in constraint satisfaction algorithm a) Propagate the constraints b) Guess everything and Quit c) Guess a value and continue to propagate d) None	
16)	The predicate logic representation of Natural language sentence is called----- a) Proposition b) Unification c) Clause d) WFF	
17)	The WFF in Conjunctive Normal form is called ----- a) Proposition b) Unification c) Clause d) WFF.	
18)	Which of the following are not allowed in clause form a) --> symbol b) \forall Symbol c) \exists d) All the above symbols are Not allowed	
19)	Which of the following are the Quantifiers used in First order logic a) Universal Quantifier \forall b) Existential quantifier \exists c) Both a and b d) None	
20)	----- are the connectives used to form the complex statements in first order logic a) implication (\rightarrow), biconditional (\leftrightarrow), and negation (\neg). b) conjunction (\wedge), disjunction (\vee) c) Both a and b d) None	

