[Total No. of Pages : 2] [6003] 356 T.E. (Computer Engineering) ARTIFICAL INTELLIGENCE (2019 Pattern) (Semester - II) (310253) Time : 2½ Hours] [Max. Marks : 70] Instructions to the candidates: 1) Attempt Q1 or Q2, Q3, or Q4, Q.5 or Q.6 Q.7, or Q.8. 2) Neat diagrams must be drawn whenver necessary. 3) Assume saidable data if necessary. Q3 List All problem solving strategies. What is backtracking, explain with n queen broblem, with Branch and bound or Backtracking. [8] Explain Monte Carlo Tree Search with all steps and Demonstrate with one Example. [9] Q2) a) Sexplain limitations of game search algorithm, Differentiate between stochastic and partial games AND Explain How use of appha and beta cut-offs will improve performance of mini max algorithm? [9] Define is Constraint satisfaction problem, State the types of consistencies Solve the following Crypt Arithmetic Problem. [8] SEND +MORE MONEY Q3) What is an Agent Name any 5 agents around you Explain Knowledge based agent with Wumpus World. [9] List and explain in short the various steps of knowledge engineering process. [9] If a triangle is isosceles, then its two sides AB and AC are equal, If AB and AC are equal, then angle B and are equal ABC is an equilateral triangle, Represent these facts in predicate logic. Explain Inference in Propositional Logic	Total No. of Questions: 8]	SEAT No. :			
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Explain Inference in Propositional Logic	Represent these facts in predic	cate'logic.			
	Explain Inference in Proposition	onal Logic			

Q4) X	Write the following sentences in FOL (any 2) (using types of quantifier	rs). [9]
	i) Every number is either negative or has a square root.	./]
	ii) Every connected and circuit-free graph is a tree.	
	iii) Some people are either religious or pious	
	iv) There is a barber who shaves all men in the town who do not sha	ve
	themselves	
(b)	What is Resolution? Solve the following statement by using resoluti	on
,		9]
	i) Rajesh like all kind of food.	
	ii) Apple and vegetables are food.	
	iii) Anything anyone eats and is not killed is food.	
	iv) Ajay eats peanuts and still alive.	
Prov	ve that Rajesh like bananas	
/		
Q5) a)	Explain Forward Chaining and Backward Chaining. With its Propertie	es,
V /	1	9]
(b)	Explain Unification Algorithm in FOL. Solve stepwise with prop	
	comments if $p(x,g(x))$ is equal to or not equal to f (prime, f(prime))	8]
	OR	
Q(0) a)		[8]
	i) Universal Generalization.	
	ii) Universal Instantiation.	
	iii) Existential Instantiation.	
. /	iv) Existential introduction	
(6)	What is Ontological Engineering, in details with its categories object a	/a "
_ /	Model.	9]
07)	Explain with an example State Space Planning.	5]
Q7)	Explain with an example state space Flaming. Explain with example, how planning is different from problem solving.	-
(كل (معن		[8]
	OR	.0]
Q8) a)		[5]
(0)		8]
V	i) Importance of planning	.~1
	ii) Algorithm for classical planning	
, 2)		[5]
V ,		
	6.	
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