Reg. No. : | | | | | | | | | | |

Question Paper Code: 56203

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Sixth Semester

Computer Science and Engineering

15UCS603- ARTIFICIAL INTELLIGENCE

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. The process of removing detail from a representation is called CO1-R

   (a) Representation (b) Inheritance (c) Abstraction (d) Coherence

2. First Order Logic is also known as _____ CO2-R

   (a) First Order Predicate Calculus (b) Quantification Theory

   (c) Lower Order Calculus (d) All of the mentioned

3. Which kind of planning consists of successive representations of different levels of a plan? CO3-Ana

   (a) Hierarchical planning (b) Non-hierarchical planning

   (c) Project planning (d) None of the above

4. Uncertainty arises in the wumpus world because the agent's sensors give only CO4-Ana

   (a) Full & Global information (b) Partial & Global Information

   (c) Partial & local Information (d) Full & local information

5. What is used in determining the nature of the learning problem? CO5-Ana

   (a) Environment (b) Feedback

   (c) Problem (d) All of the mentioned

PART – B (5 x 3= 15Marks)

6. How can a problem be defined formally using five components? Explain. CO1-R

7.		What are the components of a first order logic?	CO2-R	
8.		What is a planning graph?	CO3-U	
9.		Define uncertainty.	CO4-U	
10.		What is ensemble learning?	CO5-R	

PART – C (5 x 16= 80Marks)

11.	(a)	Compare uninformed search strategies in detail.	CO1-Ana	(16)
		Or		
	(b)	Explain A* search algorithm in detail. Discuss its efficiency.	CO1-Ana	(16)
12.	(a)	(i) How facts are represented using prepositional logic? Explain with example.	CO2-U	(08)
		(ii) Give the Syntax and Semantics of a first order logic in detail with an example.	CO2-R	(08)
		Or		
	(b)	Explain forward chaining and backward chaining in detail for a first order definite clause.	CO2-Ana	(16)
13.	(a)	Explain Planning with state space search with an example	CO3-Ana	(16)
		Or		
	(b)	Explain Hierarchical Planning in detail with an example.	CO3-Ana	(16)
14.	(a)	What is Baye's rule? Explain how Baye's rule can be applied to tackle uncertain knowledge.	CO4-U	(16)
		Or		
	(b)	How to get the exact inference from Bayesian network. Explain the variable elimination algorithm and its complexity.	CO4-Ana	(16)
15.	(a)	Explain the learning process in a decision tree?	CO5-U	(16)
		Or		
	(b)	How learning is done on a complete data using statistical methods?	CO5-App	(16)