RAMAIAH
INSTITUTE OF
TECHNOLOGY

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(Autonomous Institute, Affiliated to VTU)
Bangalore – 560 054

MAKEUP EXAMINATIONS – MAY/JUNE 2017

Course & Branch	**:**	**B.E. – Computer Science & Engineering**	**Semester**	**:**	**VI**
Subject	**:**	**Artificial Intelligence**	**Max. Marks**	**:**	**100**
Subject Code	**:**	**CSPE16**	**Duration**	**:**	**3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.
- Support your answers with examples and diagrams where ever necessary.

UNIT - I

1.	a)	With a neat diagram explain agents interact with environments through sensors and actuators.	CO1	(06)
	b)	Explain the PEAS description of the task environment for an automated taxi.	CO1	(08)
	c)	Explain simple reflex agent with neat diagram.	CO1	(06)
2.	a)	Explain the following with diagram: i) Utility based agents ii) Learning agents.	CO1	(08)
	b)	What are the four ways to evaluate algorithm's performance? Write the algorithm for general tree search algorithm.	CO1	(06)
	c)	Discuss the working principles of BFS and DFS.	CO1	(06)

UNIT – II

3.	a)	With suitable example, explain greedy best first search.	CO2	(07)
	b)	Explain the typical wumpus world.	CO2	(06)
	c)	Write a note on agents based on propositional logic.	CO2	(07)
4.	a)	Explain syntax and semantics of propositional logic.	CO2	(07)
	b)	Define conjunctive normal form. Explain simple conversion procedure by converting the sentence B_{11} into CNF.	CO2	(07)
	c)	Define Heuristics. Explain Heuristic functions for any two problems.	CO2	(06)

UNIT – III

5.	a)	Explain the syntax and semantics of first order logic.	CO3	(08)
	b)	Define the following terms: atomic sentences, complex sentences and quantifiers.	CO3	(06)
	c)	Write a simple forward chaining algorithm.	CO3	(06)
6.	a)	Represent the following sentences in first order logic: • Brothers are sibling • Everybody loves somebody • There is someone who loved by everyone.	CO3	(06)
	b)	Write unification algorithm.	CO3	(08)
	c)	Write a note on knowledge engineering process.	CO3	(06)

UNIT – IV

7.	a)	Compare STRIPS and ADL programming languages in planning problems.	CO4	(10)
	b)	Write a note on the following : i) Handling uncertain knowledge ii) Computational learning theory.	CO4	(10)
8.	a)	With any suitable example, explain learning through decision trees.	CO4	(08)
	b)	Explain the basic probability notations.	CO4	(06)
	c)	Write a note on representing knowledge in an uncertain domain.	CO4	(06)

UNIT - V

9.	a)	Explain syntactic analysis and pragmatic analysis in natural language processing.	CO5	(10)
	b)	Write a note on: i) Genetic algorithm ii) AI programming languages.	CO5	(10)
10.	a)	Explain the significance of genetic operators.	CO5	(10)
	b)	Write a note on: i) Neural Networks ii) Ant Algorithms.	CO5	(10)

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