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Future Vision

By K B Hemanth Raj

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ARTIFICIAL INTELLIGENCE

[As per Choice Based Credit System (CBCS) scheme]

(Effective from the academic year 2017 -2018)

SEMESTER – V

Subject Code **17CS562**

IA Marks **40**

Number of Lecture Hours/Week **03**

Exam Marks **60**

These Questions are being framed for helping the students in the “FINAL Exams” Only (Remember for Internals the Question Paper is set by your respective teachers). Questions may be repeated, just to show students how VTU can frame Questions.

- ADMIN

Module 1

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1. Explain different characteristics of the AI problem used for analysing it to choose most appropriate method. (8-Marks) (1a) (June/July 2018)
 2. A water jug problem states “you are provided with two jugs, first one with 4-gallon capacity and the second one with 3-gallon capacity. Neither have any measuring markers on it. How can you get exactly 2 gallons of water into 4-gallon jug”?
 - i. Write down the production rules for the above problem.
 - ii. Write any one solution to the above problem. (8-Marks) (1b) (June/July 2018)
 3. Explain the Best-First search algorithm with an example. (6-Marks) (2a) (June/July 2018)
 4. List various task domains of AI. (4-Marks) (2b) (June/July 2018)

5. Explain how AND-OR graphs are used in problem reduction. (6-Marks) (2b) (June/July 2018)
6. State the algorithm for steepest ascent hill climbing along with its disadvantages. (06 Marks) (1a) (Dec.2017/Jan.2018)
7. Solve the following cryptarithmic problem: SEND + MORE= MONEY. (10-Marks) (1b) (Dec.2017/Jan.2018)
8. Define Artificial Intelligence, and list the task domains of artificial intelligence. (04 Marks) (2a) (Dec.2017/Jan.2018)
9. Explain four categories of production system. (04 Marks) (2b) (Dec.2017/Jan.2018)
10. Explain problem characteristics with respect to heuristic search. (8-Marks) (2c) (Dec.2017/Jan.2018)
11. How knowledge can be represented in AI techniques. Explain with example. (8-Marks)
12. Differentiate between BFS & DFS Algorithms with a simple example. (8-Marks)
13. Explain the Production Rules and solution for Water Jug problem.
 - i. One jug contains 3L & another with 4L. Goal State is (n,2).
 - ii. Write either DFS or BFS for the same. (8-Marks)
14. Explain Steepest Ascent Hill Climbing with an example. List out the limitations of the same. (8-Marks)
15. Explain A* algorithm in detail with an example. (8-Marks)
16. Analyse following problems with respect to the 7 problem characteristics of AI.
 - i. 8-puzzle
 - ii. Traveling Salesman Problem. (8-Marks)
17. Define Artificial Intelligence. Describe the interaction between an agent and its environment. (8-Marks)

18. Define state space. Explain BFS Strategy. (8-Marks)
19. Describe Problem Characteristics. (8-Marks)
20. Describe Production System Characteristics. (8-Marks)
21. Explain the properties of Task Environment. (8-Marks)
22. Define agent program? Discuss Goal Based and Learning Based agents. (8-Marks)

**ANSWER SCIP FOR THESE
QUESTIONS WILL BE UPLOADED ASAP**

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THANK YOU
