Reg. No. :

Question Paper Code : 20426

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Sixth/Seventh/Eighth Semester

Computer Science and Engineering

CS 8691 – ARTIFICIAL INTELLIGENCE

(Common to: Mechatronics Engineering)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. How does artificial intelligence differ from human intelligence?

2. List the various types of agent program.

3. What is the importance of optimal solution?

4. Differentiate BFS and DFS.

5. In which situation do we use the concept Existential instantiation.

6. Define mental event and mental object.

7. Define Agent Communication.

8. What happened, if the coherence value is low?

9. What causes NLP concepts to be used and where?

10. What is the necessity of speech recognition in AI?

PART B — (5 × 13 = 65 marks)

11. (a) Define crypt arithmetic problem. Explain with the problem

   SEND + MORE = MONEY (rule - No two letters have the same value)(values - 0 to 9)

Or

   (b) Why an agent is important and explains in detail about intelligent agents.

12. (a) Define constraint satisfaction problems and explain it with an example.

Or

(b) What is the significance of pruning system? Explain Alpha and Beta Pruning? How is it advantageous one min-max?

13. (a) List out and explain each step to convert the first-order logic sentence to Normal form? What is the use of doing that?

Or

(b) Explain about any one uniformed search algorithm in detail.

14. (a) Explain briefly on Concrete Architectures for Intelligent Agents.

Or

(b) Elaborate on the negotiation and bargaining process in software agents.

15. (a) Explain the steps involved in the communication process between humans and robots? https://www.onlineanna.com

Or

(b) Briefly explain about information retrieval and information exchange.

PART C — (1 × 15 = 15 marks)

16. (a) Translate into predicate logic and clause form of the following

- John like all kinds of food

- Apples are food

- Chicken is food

- Anything anyone eats and isn't killed is food

- Bill eats peanuts and still alive

Or

(b) Explain the expected problems to build an intelligent automation system to change the manual functionalities your college library into an automatic one. What are steps would you follow to overcome those problems? (Assume minimum of two functionalities).

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