2010(Prev)

Candidates are required to give their answers in their own words as far as practicable.

परीक्षार्थी यथासंभव अपने शब्दों में उत्तर दें।

Figures in the margin indicate full marks.

दाहिने ओर किनारे में दिये हुए अंक पूर्णांक निर्दिष्ट करते हैं।

Time — 03 Hours

Full Marks — 80

Answer any five questions in which Q.No.1 is Compulsory.

1. Indicate the correct answer:

   (i) Which among the following field of AI shares an interest in the history of grammars and language?

   (a) Linguistics   (b) Cybernetics

   (c) Computer engineering   (d) None of the above.

   (ii) Which among the following achieves he best outcomes when there is uncertainty?

   (a) Program   (b) Rational agent

   (c) Problem Solving agent   (d) None of the above

   (iii) An agent act through

   (a) Actuators   (b) Sensors

   (c) Both a & b   (d) None of these

   (iv) Which among the following agents acts to achieve their goals ?

   (a) Simplex reflex agent   (b) Model based reflex agent

   (c) Goal based reflex agent   (d) None of the above

   (v) Which of the among the selects the deepest unexpanded node in the search tree for expansion ?

   (a) Breath – first search   (b) Depth – first search

   (c) Depth limited search   (d) None of the above

   (vi) Which among the following function estimates the cheapest path from mode n to a goal mode ?

   (a) Agent function   (b) Heuristic function

   (c) Successor function   (d) None of the above

   (vii) The time complexity of depth first search in equal to

   (a) Breadth -first search   (b) Depth – Limited search

   (c) Interative deepening search   (d) None of the above

   (viii) The .... Is a declarative sentence that is either true or false

   (a) Proposition   (b) Symbol

   (c) Formula   (d) None of the above

2. Describe in detail, the different foundations of Artificial intelligence, explain the role of economics, Neuroscience, Psychology and computer science in Artificial Intelligence

3. Explain an Agent and its structure, Explain also the agent environments in which it behaves.

4. What do you mean by uninformed search ? What are its different techniques. Explain the Depth first search techniques with its properties.

5. What do you mean by intelligent agent ? Discuss its major characteristics & what is the difference between reflex agent and Model based reflex agents.

6. What are different sources of knowledge ? Discuss the classification of knowledge in details.

7. What is the concept of propositional logic ? Describe the method of representing a preparation. Discuss the validity and in constituency of formula.

8. Explain the properties and different techniques of Heuristic search. Also, discuss the A search technique.

9. Write short notes on any two of the following

   (a) Rational agents   (b) Toy problem

   (c) Agent program   (d) well defined problems.