

2016

Time : 3 hours

Full Marks : 80

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

The questions are of equal value.

*Answer **five** questions in which Q. No. 1 is compulsory.*

1. Choose the correct option of the following :

(a) What is the term used for describing the judgemental or commonsense part of problem solving ?

(i) Heuristic

(ii) Value based

(iii) Analytical

(iv) None of the above

(b) What is meant by agent's percept sequence ?

(i) Used to perceive the environment

(ii) Complete history of actuator

(iii) Complete history of perceived things

(iv) Both (i) and (ii)

(c) What are the composition for agents in artificial intelligence ?

(i) Program

(ii) Architecture

(iii) Both (i) and (ii)

(iv) None of the mentioned

(d) An 'agent' is anything that :

(i) Perceives its environment through sensors and acting upon that environment through actuators

(ii) Takes input from the surroundings and uses its intelligence and performs the desired operations

(iii) An embedded program controlling line following robot

(iv) All of the mentioned

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(e) Which search algorithm will use limited amount of memory ?

(i) RBFS (Recursive Best First Search)

(ii) SMA* (Simplified Memory Bounded A*)

(iii) Hill-climbing search algorithm

(iv) Both (a) and (b)

(f) What is expansion if PEAS in task environment ?

(i) Peer, Environment, Actuators, Sense

(ii) Perceiving, Envionment, Actuators, Sensors

(iii) Performance, Environment, Actuators, Sensors

(iv) None of the mentioned

(g) Which search strategy is also called as blind search ?

(i) Uninformed search

(ii) Informed search

(iii) Simple reflex search

(iv) All of the mentioned

(h) Which search algorithm imposes a fixed depth limit on nodes ?

(i) Depth-limited search

(ii) Depth-first search

(iii) Iterative deepening search

(iv) Bidirectional search

2. Give the categorization of AI definitions.

3. Explain the structure of agents and also discuss the problem solving agents.

4. Explain an informed search strategy in detail.

5. Discuss the backward chaining and forward chaining with suitable examples.

6. Explain the first order logic model.

7. What is state space representation in problem solving ? Explain.

8. Explain ontological engineering using a suitable example.

9. Briefly list the issues involved in design of general purpose search technique.