

2020

Time : 3 hours

Full Marks : 70

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

The figures in the margin indicate full marks.

*Answer from **all** the Sections as directed.*

Section – A

(Compulsory)

1. Choose the correct answer from the following
multiple choice questions : $2 \times 10 = 20$

(a) What is the term describing judgemental or
common sense part of the problem solving ?

(i) ~~Heuristic~~

- (ii) Critical
 - (iii) Value based
 - (iv) None of these
- (b) Natural language processing is a field of :
- (i) Computer Science
 - ☒ (ii) Artificial Intelligence
 - (iii) Linguistic
 - (iv) All of the mentioned
- (c) What stage of manufacturing is described as "mapping of function onto form" ?
- (i) Design
 - (ii) Distribution
 - ☒ (iii) Project management
 - (iv) Field service
- (d) What is the general term of blind search ?
- (i) Informed search

- (ii) ☒ Uninformed search
 - (iii) Heuristic search
 - (iv) None of these
- (e) Which planning consists of successive representation of different levels of plan ?
- (i) ☒ Hierarchical planning
 - (ii) Non hierarchical planning
 - (iii) Project planning
 - (iv) None of these
- (f) The field that investigates mechanics of human intelligence is :
- (i) History
 - (ii) ☒ Cognitive science
 - (iii) Psychology
 - (iv) None of these

(g) Which is most straight forward approach for planning algorithm ?

(i) Best first search

(ii) State space search

☒ (iii) Depth first search

(iv) None of these

(h) Which search is equal to minimax search but eliminates the branches that cannot influence the final ?

(i) Depth first search

(ii) Breadth first search

☒ (iii) Alpha beta pruning

(iv) None of these

(i) Which search is similar to minimax search ?

(i) Hill climbing

(ii) BFS

~~(iii) DFS~~

(iv) None of these

(j) Which value is assigned to alpha and beta in the alpha-beta pruning ?

(i) Alpha = max

(ii) Beta = min

(iii) Beta = max

~~(iv) Both (i) and (ii)~~

Section – B

Answer any four questions of the following :

5×4 = 20

2. Explain turing test in artificial intelligence.
3. Explain Means-End Analysis.
4. Explain problem characteristics.

5. Explain simple hill climbing.
6. Explain the component of intelligent.
7. What are agent and environment ?
8. Differentiate between Informed search and Uninformed search.
9. Explain Breadth first search and Depth first search.

Section – C

Answer any two question of the following :

$$15 \times 2 = 30$$

10. What is AI ? Mention application of AI.
11. What is knowledge representation ? What are various techniques for knowledge representation ?

12. Explain minimax algorithm with suitable example.
13. Explain A* search technique with a suitable example.

