

(6 pages)

Reg. No. :

Code No. : 21042

Sub. Code : GMCA 5 A

B.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2016.

Fifth Semester

Computer Application – Main

Elective — ARTIFICIAL INTELLIGENCE

(For those who joined in July 2012-2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Production system provides facilitates describing and performing the _____ process to AI program
(a) Control (b) Search
(c) Comments (d) None of these
2. Which of application of AI?
(a) Tic-Tac-Toe (b) Towers of Hanoi
(c) Tree (d) All of these

3. A _____ is a technique that improves the efficiency of a search process
(a) Assumption (b) Water jug
(c) Heuristic (d) None of these
4. Which of the following is the example for recoverable problem?
(a) 8-puzzle (b) Chess
(c) Tic-Toe (d) None of these
5. Which of the following symbol represents “there exists”?
(a) $\rightarrow$ (b) $\vee$
(c) $\wedge$ (d) $\exists$
6. The predicate logic for the sentence “Caesar was ruler”
(a) Ruler (Caesar) (b) Caesar (ruler)
(c) (Ruler $\rightarrow$ Caesar) (d) None of these
7. To which depth does the alpha-beta pruning can be applied
(a) 10 states (b) 8 states
(c) 6 states (d) Any depth



8. Prolog is a _____ programming
 (a) Structure (b) Unstructure
 (c) Logic (d) None of these
9. The minimax search procedure is a _____ procedure
 (a) Birth-first (b) Depth-first
 (c) First-depth (d) First-birth
10. Which of the following is an advantage of using an expert system development tool?
 (a) Imposed structure
 (b) Knowledge engineering assistance
 (c) Rapid prototyping
 (d) All of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) Explain the state space representations for AI problem.
 Or
 (b) What do you mean by production system?

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12. (a) Explain hill climbing technique.
 Or
 (b) What do you mean by simulated annealing?
13. (a) What are the entities of knowledge representation?
 Or
 (b) What is resolution?
14. (a) What is minimax algorithm and how the algorithm searches a game tree?
 Or
 (b) Write in detail about declarative knowledge.
15. (a) Compare the rule based and model based expert system.

- Or
 (b) Explain various application areas of expert system.

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[P.T.O.]



PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Define A.I. List and explain various application areas of A.I.

Or

- (b) Describe the characteristics of AI problem with an example.

17. (a) (i) Explain best first search technique.
(ii) Give a brief note on constraint satisfaction.

Or

- (b) Discuss hill climbing procedure with its drawbacks and possible remedial measures.

18. (a) (i) What do you mean by unification? Explain with an example.
(ii) Explain the resolution procedure for propositional logic in detail.

Or

- (b) Give six examples of facts that are difficult to represent and manipulate in predicate logic.

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19. (a) Explain about forward and backward reasoning.

Or

- (b) Discuss PROLOG programming with examples.

20. (a) (i) Discuss the expert system life cycle.
(ii) List the difficulties in knowledge acquisition.

Or

- (b) Give a brief note on :
(i) MYCIN
(ii) DENDRAL.
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