



K20P 0560

Reg. No. : .....

Name : .....

**IV Semester M.C.A. (Including Lateral Entry Stream) Degree  
(C.B.S.S. – Reg./Supple./Imp.) Examination, May 2020  
(2014 Admission Onwards)**

**Elective – II : MCA 4E05 : ARTIFICIAL INTELLIGENCE**

Time : 3 Hours

Max. Marks : 80

**SECTION – A**

Answer **any ten** questions. **Each** question carries **three** marks. **(10×3=30)**

1. What is an AI Technique ?
2. Define the logic behind – Hill climbing, Best-First Search, BFS and DFS.
3. What is heuristic search ?
4. Define knowledge hypothesis.
5. How Hill climbing is different from Dynamic Programming ?
6. Differentiate Informed and Uninformed search. Give examples.
7. What are the differences and similarity in problem solver and planner ?
8. Sketch and compare state space versus plan space search.
9. How predicate logic is helpful in knowledge representation ?
10. Differentiate propositional and predicate logic.
11. Define uncertainty. How it is solved ?
12. What are the frame works in machine learning process ?

P.T.O.



## SECTION – B

Answer **all** questions. **Each** question carries **ten** marks.

(5×10=50)

13. a) List the characteristics of artificial intelligence. Explain any five characteristics in detail. **10**
- OR
- b) Explain necessary components to define an AI problem with an example. **10**
14. a) i) Evaluate a problem as a state space search with an example. **5**  
ii) Show how the steepest descent hill climbing works ? **5**
- OR
- b) List and describe the problem characteristics that need to be considered for selecting appropriate heuristic for a given class of problem. **10**
15. a) With suitable examples explain briefly agent based and distributed problem solving neatly. **10**
- OR
- b) Explain in detail about structured representation of knowledge. **10**
16. a) Explain an expert system bringing out the role of knowledge engineer. **10**
- OR
- b) i) Describe hierarchical planning method with example. **5**  
ii) Brief any six applications of expert systems. **5**
17. a) Present a comparative discussion on learning decision trees and learning multilayer feed forward networks. **10**
- OR
- b) Discuss genetic algorithms for various machine learning models. **10**