

2056
Bachelor of Science (FYUP)-Fourth Semester
Fourth Semester
Computer Science and Applications
Paper: Introduction to Artificial Intelligence
(Same with B.A. 4th Semester FYUP)

Time allowed: 3 Hours

Max. Marks: 90

NOTE: Attempt five questions in all, including Question No. 9 (Unit-V) which is compulsory and selecting one question each from Unit I - IV.

x-x-x

UNIT - I

1. a) What do you mean by Agent in AI system? Describe their role.
b) What is Turing test in AI? How it works? Give its limitations. (9+9)
2. What is state-space representation? Describe Water Jug problem using it. (18)

UNIT - II

3. a) What is means End Analysis? Write its advantages and applications.
b) What do you mean by Depth First search? Discuss with example. (9+9)
4. Discuss Hill Climbing algorithm. Also give its features. (18)

UNIT - III

5. a) What is Resolution Principle in AI? Write and explain its various steps.
b) What is first order predicate logic? Describe its key components. (9+9)
6. What is Expert systems? Give its main features. (18)

UNIT - IV

7. What is NLP? Write its various advantages and challenges. (18)
8. Discuss syntactic and semantic analysis phases of NLP with suitable example. (18)

UNIT - V

9. Answer the following questions in 8-10 lines only:
 - a) What is transition model in Water Jug problem?
 - b) What is monotonicity in production system?
 - c) What is rule based system in knowledge representation?
 - d) Give the usages of A* algorithm.
 - e) What is backtracking in constraint satisfaction problem?
 - f) What is text preprocessing in NLP? (6×3)

x-x-x