

Exam. Code: 0931
Sub. Code: 6933

2021
B.E. (Electronics and Communication Engineering)
Seventh Semester
Departmental Elective – IV
EC-705: Artificial Intelligence

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Define artificial intelligence.
- b) Differentiate Uninformed and Informed search strategies.
- c) List out the advantages of non-monotonic reasoning.
- d) Define Bayes theorem.
- e) What is unification?
- f) Give one example real life example where artificial intelligence is being used.
- g) What are the types of search strategies? Explain any one.
- h) Discuss the use of AI in The travelling salesman problem.
- i) What is a constraint satisfaction problem?
- j) What are decision tree based expert systems? (10x1)

UNIT – I

- II. a) What is the basic idea behind turing test? Explain how it is done? What is the interpretation? List six tasks where AI systems have been able to achieve success or limited success.
- b) Define rational agent. Explain four things on which rational agents at any given time depend. Give PEAS description of Medical Diagnosis System. (2x5)
- III. a) Consider the following sentences:-
 - John likes all kinds of food.
 - Apple is food.
 - Chicken is food.
 - Anything anyone eats and is not killed by is food.
 - Bill eats peanuts and is still alive.
 - Sue eats everything Bill eats.
 - i) Translate these sentences into formulas in predicate logic.
 - ii) Covert the formula of (a) into clausal form.
 - iii) Prove that 'John likes peanuts' using resolution.
- b) What are the components of a planning system? Explain briefly how these components can be implemented? (2x5)

P.T.O.

(2)

- IV. a) What are the various heuristic techniques? Explain how they are different from the solution guaranteed techniques.
- b) Describe in detail the differences between language understanding and language generation. (2x5)

UNIT – II

- V. a) Explain minimax search procedure for two players. How the performance of minimax procedure can be further improved.
- b) What are four main features of a knowledge representation language? Elaborate. (2x5)
- VI. Write short note on the following:-
- a) Applications of AI
- b) Partial order planner (2x5)
- VII. a) List various components of natural language understanding process. Describe syntactic analysis and semantic analysis in brief.
- b) What is an Expert System? Explain the role of knowledge in design of Expert System. (2x5)

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