Reg. no....................
Name.....................

B.TECH DEGREE EXAMINATION
Eight Semester
Branch : Applied Electronics & Instrumentation
AI010 804 L04- **ARTIFICIAL INTELLIGENCE**
(New scheme: Regular)

Time: Three hours   Maximum:100 Marks

Part A
Answer all questions briefly.
Each question carries 3 marks.

1. Define the term Artificial Intelligence.
2. Define Semantics.
3. What you mean by a decision theory?
4. What are the features of a planner?
5. Define an Expert system with examples.

(3 x 5 = 15 Marks)

Part B
Answer all questions.
Each question carries 5 marks.

6. With examples explain informed and uninformed search techniques.
7. Explain alpha beta pruning.
8. Explain Bayes rule and probabilistic reasoning.
9. Define partial order planner.
10. Explain the components of an expert system.

(5 x 5 = 25 Marks)

Part C
Answer any one full question from each module.
Each question carries 12 marks.

Module 1

11. Discuss any two uninformed search methods with examples.   (12 Marks)

Or

12. Discuss any two informed search methods with examples. (12 Marks)

Module 2

13. Describe the general process of knowledge engineering. Discuss the syntax and semantics of first-

order logic. (6 + 6=12 Marks)

Or

14. Explain the following terms with necessary figures, algorithms

a) Min Max algorithm.
b) Alpha beta pruning. (6+6=12 Marks)

Module 3

15.   a) Explain and prove the Bayes Theorem. (4 Marks)

b) What is meant by conditional probability? (4 Marks)

c) Illustrate with an example a Bayesian network.(4 Marks)

Or

16.   a) Explain with examples, what is reasoning under uncertainty? (4 Marks)

b) Write all the basic axioms of probability. (4 Marks)

c) Write Short note of certainty factor and rule based system. (4 Marks)

Module 4
17. Explain the concept of planning with state space search using suitable examples. (12 Marks)

Or
18. With relevant figures & algorithms write notes on

a) Hierarchical Planning. (3 Marks)

b) Component of planning System. (3 Marks)

c) Non – linear planning. (3 Marks)

d) Reactive System. (3 Marks)   (12 Marks)

Module 5

19. Explain the basic architecture of an expert system. Also give its applicability in different areas
with suitable examples.   (12 Marks)

Or

20. Explain in detail the expert system tools

      a) MYCIN   (6 Marks)
      b) EMYCIN.   (6 Marks)

                                                           (12 x 5= 60 Marks)