

Roll No.

Total No. of Questions : 09]

[Total No. of Pages : 02

Paper ID [A0526]

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 6th)

ARTIFICIAL INTELLIGENCE AND APPLICATIONS (Elective - I) (IT - 322)

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 × 2 = 20)

- a) What is AI?
- b) Explain the characteristics of an AI technique.
- c) What is the relevance of search and control strategies in problem solving?
- d) What is Game playing?
- e) What is Heuristics?
- f) Distinguish between fact and predicate.
- g) What is an Expert System?
- h) What are exhaustive searches?
- i) What are production systems?
- j) What is Resolution theorem?

Section - B

(4 × 5 = 20)

Q2) Discuss AI Programming vs Conventional Programming.

Q3) With examples explain how unification algorithm works.

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Q4) Discuss important features of AI programming languages.

Q5) What are the advantages of heuristic search?

Q6) Distinguish between Forward and backward chaining.

Section - C

(2 × 10 = 20)

Q7) What are the limitations of predicate logic as a tool for knowledge representation? Illustrate through examples.

Q8) Prove each of the following statements :

- (a) Breadth first search is a special case of uniform cost search.
- (b) Breadth first, depth first and uniform cost search are special cases of best-first search.

Q9) What are the limitations of predicate logic as a tool for knowledge representation? Illustrate through examples.

