

M.Sc. (Final)
Term End Examination, 2016-17

COMPUTER SCIENCE

Artificial Intelligence and Expert System

Time : Three Hours] [Maximum Marks : 100
[Minimum Pass Marks : 36

Note : Answer **all** questions. All questions carry equal marks.

1. (a) What is artificial intelligence ? Explain the history of artificial intelligence.
(b) Write short notes on the following :
 - (i) Breadth First Search
 - (ii) Knowledge Representation(c) Explain A* algorithm in detail.
2. (a) Explain the difference between procedural and declarative knowledge.

(2)

- (b) Write short notes on the following :
- (i) Frame
 - (ii) Semantic Net
- (c) What is Reasoning ? Explain the difference between forward and backward reasoning.
3. Write short notes on any **two** of the following :
- (a) Introduction to LISP
 - (b) Predicate Function
 - (c) PROLOG
 - (d) Simple program in LISP
4. (a) What is Natural Language Processing ? Explain the role of knowledge in language understanding.
- (b) What are the steps in Natural Language Processing ? Explain in detail.
- (c) Write short notes on the following :
- (i) Semantic Analysis
 - (ii) Components of a Planning System

(3)

5. (a) Define Expert System. Explain in detail the components of Expert System.
- (b) Explain non-production system architecture.
- (c) Write short notes on the following :
- (i) Knowledge Acquisition
 - (ii) Blackboard Architecture
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