

FACULTY OF INFORMATICS**M.C.A. II-Year II – Semester (Supplementary) Examination, January 2015****Subject : Artificial Intelligence (Elective-I)****Time : 3 hours****Max. Marks : 80****Note: Answer ONE question from each unit. All questions carry equal marks.****UNIT – I**

- 1 a) Define production system, and explain about production system characteristics. 10
b) Discuss criteria for success with example. 6

OR

- 2 a) Write an algorithm to solve Tic-Tac-Toe problem and it has to meet all the requirements for a good AI technique. 8
b) Consider water jug problem and analyse it with respect to the seven problem characteristics. 8

UNIT – II

- 3 a) Write constraint satisfaction algorithm and solve the following crypt arithmetic problem. 13

$$\begin{array}{r} S E N D \\ + M O R E \\ \hline M O N E Y \end{array}$$

- b) Differentiate between heuristic search and blind search. 3

OR

- 4 a) Write and explain A^k algorithm with example. 10
b) Define admissibility. Explain the admissibility of A^y algorithm. 6

UNIT – III

- 5 a) Explain about procedural versus declarative knowledge. 8
b) Explain the various ways to implement BFS. 8

OR

- 6 a) Differentiate between monotonic and non-monotonic reasoning. 7
b) Explain about Matching. 9

UNIT – IV

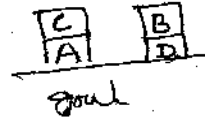
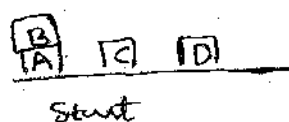
- 7 a) Explain about conceptual dependency. 8
b) Discuss about Rule based systems. 8

OR

- 8 Write short notes on : 16
i) Bayesian networks ii) Fuzzy logic

UNIT-V

- 9 a) Consider the following blocks world problem and solve it by using goal stack planning method. 10



- b) Write MINIMAX search algorithm. 6

OR

- 10 Write short notes on : 16
i) Reactive systems ii) Iterative deepening search

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M.C.A. II-Year II – Semester (Supplementary) Examination, January 2015

Subject : Distributed Systems (Elective-I)

Time : 3 hours

Max. Marks : 80

Note: Answer ONE question from each unit. All questions carry equal marks.

UNIT – I

- 1 a) What is a three-tiered client-server architecture? Explain.
b) Explain the principal operation of page based distributed shared memory.

OR

- 2 Explain the following :
a) Software agents
b) Code migration

UNIT – II

- 3 a) Explain home based approaches and hierarchical approaches in locating mobile entities.
b) Explain following synchronization algorithms.
i) Cristian algorithm
ii) Berkeley algorithm

OR

- 4 Explain the following algorithm.
a) Ring algorithm
b) The bully algorithm
c) A Token ring algorithm
d) A centralized algorithm

UNIT – III

- 5 Explain Data centric consistency models.
6 Explain process resilience in distributed systems.

OR

UNIT – IV

- 7 a) Explain in detail how security service is provided in CORBA.
b) Explain D-Com.

OR

- 8 a) Explain the naming services in NFS.
b) Explain CODA.

UNIT-V

- 9 a) Explain any two algorithms for implementing distributed shared memory.
b) Explain why false sharing doesnot occur in object based system.

OR

- 10 a) Identify the actions that belong to the transfer policies actions in the load sharing of the V-system.
b) Discuss issues in Task migration.

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M.C.A. II-Year II – Semester (Supplementary) Examination, January 2015

Subject : Information Retrieval Systems (Elective-I)

Time : 3 hours

Max. Marks : 80

Note: Answer ONE question from each unit. All questions carry equal marks.

UNIT – I

- 1 a) What are the similarities and differences between use of fuzzy searches and term masking? What are the potentials for each to introduce errors.
b) What is the impact of precision and recall?
OR
- 2 a) Explain search capabilities.
b) Explain the functional overview of the information retrieval systems.

UNIT – II

- 3 Define automatic indexing. Explain briefly various automatic indexing techniques.
OR
- 4 a) What are the problems with Lauh's concept of resolving power.
b) Discuss N-gram data structure in detail.

UNIT – III

- 5 Discuss semantic networks in detail.
OR
- 6 Discuss the concept of "Crossing the language Barrier" related to information retrieval.

UNIT – IV

- 7 Discuss the different file structures used for query processing.
OR
- 8 Write a note on "Duplicate document detection".

UNIT-V

- 9 a) How do you define an item on the internet with respect to a search statement and similarity function?
b) Write Boyer-Moore text search algorithm.
OR
- 10 Discuss about the techniques involved in software text search algorithms.
