

328757(28)

APR-MAY

B. E. (Seventh Semester) Examination, 2020

(Old Scheme)

(EEE, Et & T & Mechatronics)

ARTIFICIAL INTELLIGENCE & EXPERT SYSTEM

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Part (a) of each unit is compulsory. Remaining part (b), (c) and (d), attempt any two questions.

Unit-I

1. (a) List the application of AI. 2

(b) Write short notes on :

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- (i) Knowledge representation 4
(ii) Knowledge acquisition 3
(c) List the early works in AI. 7
(d) Explain knowledge manipulation along with its importance in AI field. 7

Unit-II

2. (a) What do blind search and heuristic search means? 2
(b) Explain A* algorithm. 7
(c) Solve the problem using constraint satisfaction technique :

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

Note :

- (i) The letter will have value ranging from 0 to 9.
(ii) No two letters will have same value.
(iii) The carry can be 0 or 1. 7
(d) Differentiate between Breadth first search and depth first search. 7

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Unit-III

3. (a) What is modus ponens rule of inference making? 2
(b) Explain semantic nets with example. 7
(c) Explain rule based system. 7
(d) Explain resolution refutation technique with an example.
(i) Ram is a Maharastrian.
(ii) All Maharastrian are Indian
Prove that Ram is Indian. 7

Unit-IV

4. (a) What is recurrent networks? 2
(b) Explain truth maintenance system. 7
(c) Explain Bayes network for uncertainty handling. 7
(d) Explain learning by induction. 7

Unit-V

5. (a) What do production system means? 2

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PTO

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- (b) List and explain components of planning system. 7
- (c) Explain augmented transition network. 7
- (d) Explain Expert System Architecture. Also explain about MYCIN. 7