

7E4094

Roll No. : _____

Total Printed Pages : **3**

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B. Tech. (Sem. VI!) (Re-Back) Examination, December-2012
Computer Science
7CS4 Artificial Intelligence

Time : 3 Hours]

[Maximum Marks : **80**

[Min. Passing Marks : **32**

*Attempt any five questions. Selecting one question from each unit.
All questions carry equal marks. Schematic diagrams must be
shown wherever necessary. Any data you feel missing suitably
be assumed and stated clearly. Units of quantities used /
calculated must be stated clearly.*

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. Nil

2. Nil

UNIT - I

- 1 (a) How to define problem as state space search ? Discuss with help of an example. 6
- (b) What is Production System ? Discuss the characteristics of production system. 6
- (c) Discuss the control strategies. 4

OR

- 1 (a) Define the Heuristic Search. Discuss its benefits and shortcomings. 8
- (b) Explain algo with example : (any two)
- (i) Hill Climbing : Steepest - Ascent
 - (ii) Best - First Search - The A* Algo
 - (iii) Problem Reduction - The AO* Algo
 - (iv) Constraint Satisfaction.



1. The first part of the document
describes the general situation
of the country.

2. The second part of the document
describes the economic situation
of the country.

III. CONCLUSION

The document shows that the
country is in a state of
economic crisis.

The government should take
immediate steps to
improve the situation.

The document also shows that
the country is in a state of
political crisis.

The government should take
immediate steps to
improve the situation.

3. The third part of the document
describes the political situation
of the country.

IV. RECOMMENDATIONS

The document recommends that
the government should take
immediate steps to
improve the situation.

The document also recommends
that the government should
take steps to improve the
political situation.

The document also recommends
that the government should
take steps to improve the
economic situation.

The document concludes that the
country is in a state of
economic and political crisis
and that the government should
take immediate steps to
improve the situation.

The document also recommends
that the government should
take steps to improve the
political situation.

The document also recommends
that the government should
take steps to improve the
economic situation.

UNIT - II

2 (a) Differentiate between Knowledge base and Database. Explain levels and issues of knowledge representation. 8

(b) What is resolution principal ?
Construct truth table for logical expression.

$$(A \vee \sim B) \wedge (\sim A \vee B)$$

8

OR

2 (a) Write unification algorithm and explain resolution in predicate logic. 8

(b) Write algo to convert WFF into clause form. 8

UNIT - III

3 (a) Explain Baye's Theorem. What is meant by conditional probability ? 8

(b) What is supervised and unsupervised learning ? Differentiate them also. 8

OR

3 (a) A problem solving search can proceed either forward or backward. What factor determine the choice of direction for a particular problem. 8

(b) Explain Rule Based System with example. 8

UNIT - IV

4 (a) Explain Algorithm of Minimax Search Procedure and discuss

(i) Alpha Beta Cutoff

(ii) Waiting for Quiescence.

8

{Contd...}



- (b) Discuss : (any two)
- (i) Components of Planning System
 - (ii) Non-linear planning
 - (iii) Reactive System.

8

OR

4 Explain various steps used in Natural Language processing.

Discuss

- (a) Syntactic Processing
- (b) Semantic Analysis.

16

UNIT - V

5 (a) Explain different type of artificial Neural Network Architecture. Describe application of Neural Network.

8

(b) Explain Back propogation of error in multilayer neural network.

8

OR

5 (a) Explain the difference between Expert System and Knowledge based system.

8

(b) Explain various development tools for Expert System.

8

