

Q.P. Code : 31352

Revised Course
(3 Hours)

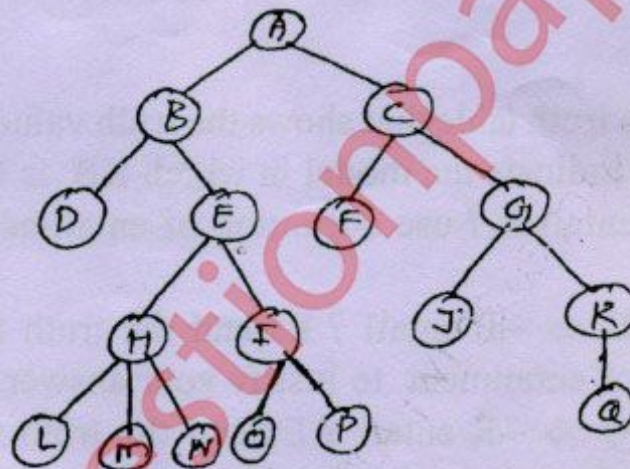
[Total Marks : 80

- N.B. : (1) Question No. 1 is compulsory.
(2) Attempt any three questions out of the remaining five questions.

1. Attempt any five 20
- Describe Bayes theorem.
 - What are modus ponens ?
 - Define Alpha & Beta value in game tree?
 - Differentiate between propositional and predicate logic.
 - Give Agent Task Environment of Image analysis.
 - Explain in short what is Expert System Shell.
2. (a) Consider a knowledge base KB that contain following propositional logic sentences. 10
- $Q \Rightarrow P$
 $P \Rightarrow \neg A$
 $Q \vee \neg R$
- Construct a truth table that shows the truth value of each sentence in KB and indicate the model in which KB is true.
 - Does KB entail R ? use definition of entailment to justify your answer.
 - Does KB $R \Rightarrow \neg P$ entail ? Extend the truth table and use the definition of entailment to justify your answer.
 - Does KB $Q \Rightarrow \neg R$ entail ? Extend the truth table and use the definition of entailment to justify your answer.
- (b) Explain simulated annealing with diagram. Where it is used ? 10
3. (a) Measure 1 liter water if available Jug sizes are 7 liters and 5 liters. 5
- (b) What is PEAS descriptor ? Explain PEAS descriptor for Taxi driver Agent. 5
- (c) You have two neighbours, John and Mary, who have promised to call you at work when they hear the alarm. John always calls when he hears the alarm, but sometimes confuses the telephone ringing with the alarm and calls then, too. Mary on other hand, likes rather loud music and some times misses the alarm altogether. Given the evidence of who has or has not called. We would like to estimate the probability of a burglary. Draw a Bayesian network for this domain with suitable probability table. 5

[TURN OVER

4. (a) Assume the following facts :- 10
- (i) It is a crime for an American to sell weapons to hostile nations.
 - (ii) The country Nano an enemy of America.
 - (iii) Nano has some missiles; all of its missiles were sold to try it by Colonel West. 10
 - (iv) Colonel West is an American
- Use resolution to answer the question "Colonel West is a Criminal."
- (b) Differentiate between Informed and uninformed search techniques. Also give comparative analysis of various uninformed search techniques. 8
5. (a) Apply DFS algorithm on given tree write the sequence of nodes in which it is explored.



- (b) List down all types Agent Architecture. Explain utility based and learning agent. 5
- (c) What is Expert System explain its working with block Diagram. 7
6. Write Short notes on any Four. 20
- (a) Ontology
 - (b) Crypto Arithmetic Problem
 - (c) WUMPUS world Environment
 - (d) Partial order planner with STRIP representation
 - (e) Prolog.

Course: B.E. (Sem VII) (REV. -2012) (CBSGS) (IT) (Prog-T5127)

QP Code 31352

Correction

Q. 3 (c) & Q. 4 (a), 4 (b) are of 10 Marks each.

Q. 5 (a) is of 8 Marks

Q.5 (b) is of 5 Marks

Q.5 (c) is of 7 Marks

Date and Time 25/05/2016 11:15 AM