Code: R7421302

R7

B.Tech IV Year II Semester (R07) Supplementary Examinations, March/April 2013
ARTIFICIAL INTELLIGENCE
(Electronics and Control Engineering)

Time: 3 hours   Max Marks: 80

Answer any FIVE questions
All questions carry equal marks
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1 (a) Discuss the areas of applications of artificial intelligence.
   (b) Explain the different control strategies used in problem solving.

2   How breadth first search works? What are the features and applications of breadth first search?

3 (a) Explain difference between simple hill climbing and steepest ascent hill climbing.
   (b) Explain difference between best first search and steepest ascent hill climbing.

4   Explain Alpha-Beta cut offs during minimax search.

5   Jones, Smith and Clark hold the jobs programmer, knowledge engineer and manager. Jones owes the programmer $10. The manager's spouse prohibits borrowing money. Smith is not married. Your task is to figure out which person has which job. Solve the problem using proportional logic.

6 (a) Give the steps for conversion to implicative normal form.
   (b) For each of the following pairs of atomic sentences, give the most general unifier if it exists.
        (i) Older (father (y),y), older (father(x), John)
        (ii) Knows (father(y),y), knows (x,x)
        (iii) f(Marcus, g (x,y) and f(x,g(Caeser, Marcus))

7 (a) Show a parse tree for "India wins third N-power test after losing second one". Explain what knowledge is necessary to produce the correct parse.
   (b) Show how the sentence "SACHIN BATTED THROUGH THE INNINGS" would be represented incase grammar. Show how it would be represented in CD.

8   What are decision trees? Draw a decision tree for the problem of deciding whether or not to move forward at a road intersection given that the light has just tuned green.

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