

Code: R7421003

B.Tech IV Year II Semester (R07) Supplementary Examinations, March/April 2013

**MICRO CONTROLLERS & APPLICATIONS**

(Electronics and Instrumentation Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions

All questions carry equal marks

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- 1 (a) Explain how agents should act.  
(b) Discuss the factors determining the choice of direction for a particular problem.
- 2 (a) In what kind of a problem space would a depth first search be better than a breadth first one?  
(b) A problem-solving search can precede either forward or backward. Discuss the factors that determine the choice of direction for a particular problem.
- 3 Explain why it is a good heuristic to choose the variable that is most constrained, but the value that is least constraining in a CSP search.
- 4 (a) The min-max procedure is depth first and depth limited. Explain with examples.  
(b) Search in game planning program always proceed forward from current state to goal state. Explain.
- 5 (a) Consider the problem of finding clothes to wear in the morning. The knowledge's are:  
Wear jeans unless either they are dirty or you have a job interview today.  
Wear a sweater if it's cold.  
It's usually cold in the winter.  
Wear sandals if it's warm.  
It's usually warm in the summer.  
(i) Build a JTMS-style database of the necessary facts to solve this problem.  
(ii) Show how the problem can be solved and how the solution changes as the relevant facts change.  
(b) TMSs are useful tools in solving constraint satisfaction problems. Give your opinion.
- 6 (a) What are the uses of combining forward and backward reasoning?  
(b) What do you understand by conflict resolution? Explain.
- 7 Define the operator schemata for the problem of putting on shoes and socks and a hat and coat; assuming that there are no pre-conditions for putting on the hat and coat. Give a partial-order plan that is a solution, and show that there are 180 different linearization's of this solution.
- 8 Explain the importance of repeated problem-solving for and effective improvement in the process of "Learning". Distinguish it from learning by taking advice.

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