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(Please write your Exam Roll No.)

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END TERM EXAMINATION

EIGHTH SEMESTER [B.TECH] MAY – JUNE 2011

Paper Code: ETCS 408

Subject: Artificial Intelligence

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions. Q.No.1 is compulsory.

Q1 Explain in brief:

(3x5=15)

- (a) List the disadvantages of AND – OR graph.
- (b) List the differences between MINIMAX & MAXMIN algorithms.
- (c) List the differences between syntactic processing and semantic processing.
- (d) List the use and advantages of MYGIN.
- (e) What problem would be encountered in attempting to represent the following statements in predicate logic.

- John only likes to see French movies.
- It's safe to assume a movie is American.
- Playhouse rarely shows foreign movies
- John doesn't go to the playhouse very often.

Q.2 (a) Describe how the branch & bound technique could be used to find the shortest solution to a water. Jug problem? (7)

- (b) How does AI provide usefulness to following applications? (8)
- (i) Speech processing
 - (ii) Image processing
 - (iii) Natural language processing

Q.3 (a) Discuss the properties to represent the knowledge for a good system.(7)

(b) Assume the following facts (8)

- (i) Ram only likes easy courses
- (ii) Science courses are hard
- (iii) All the courses in the LAW deptt are easy
- (iv) LAW 301 is a LAW course

Use resolution to answer the question, "What course would 'RAM' like?"

Q.4 (a) Discuss the unification Algorithm in detail, Also provide an example.(10)

(b) What is wrong with the following argument 1 ? (5)

- * Men are widely distributed over the earth.
- * Socrafes is a man
- * Therefore Socrates is widely distributed over the earth.

How should the facts represented by these sentences be represented in logic so that this problem does not arise.

Q.5 (a) A problem-solving search can proceed either forward or backward. What factors determine the choice of direction for a particular problem. (5)

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- (b) Define & discuss about non-monotonic reasoning. Also provide an example to understand the facts. **(10)**
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- Q.6 (a) Construct semantic net representations for the following: **(8)**
(i) Pompeian (Marcus), Blacksmith (Marcus)
(ii) Mary gave the green flowered vase to her favourite cousin. **(7)**

- (b) Show conceptual dependency representation of the sentence.

- John begged Mary for a pencil.

- Q.7 Explain & discuss minimum search procedure with the help of an example. **(15)**

- Q.8 Write short notes on any three **(3x5=15)**

- (a) Neural nets
- (b) Pragmatic processing
- (c) Fuzzy logic
- (d) Modus penens
- (e) Means-End analysis
