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MCA (III YEAR)

Term-End Examination

June, 2010

CS-14 : INTELLIGENT SYSTEMS

Time : 3 hours

Maximum Marks : 75

Note : Q. No. 1 is compulsory. Attempt any three questions from the remaining four questions.

Answer following questions briefly :

1. (a) Differentiate Artificial Intelligence from that of Natural Intelligence. Give relevant examples to support your answer. 5
- (b) How does Turing Test help to know the intelligence of the system ? Explain with example. 5
- (c) What is Truth Maintenance system (TMS) ? Explain with example. 5
- (d) What are the differences between Informed and Blind search Techniques ? Explain the following search Techniques with examples : 15
 - (i) Depth first search
 - (ii) Hill climbing

2. (a) What is Conceptual Dependency (CD) ? 8
Draw CD Representation of the sentence
"John took a book from Library".
- (b) What is a frame ? Draw a Frame 7
Representation for computer centre.
3. (a) Represent the following facts in First Order 10
Predicate Logic (FOPL) :
- (i) Mohan was a doctor.
- (ii) All doctors were Nygerian.
- (iii) Rashmi was a nurse.
- (iv) All nurses were either loyal to a doctor
or hated him.
- (v) Every one is loyal to some-one.
- (b) Convert all the above five facts (of part (a)) 5
into Conjunctive Normal Form (CNF), *using
systematic approach.*
4. (a) Write a LISP Programme called "first - 5
element" that takes a list as its arguments
and returns the first top element of the list.
- (b) What is an Expert System ? What are its 10
different components ? Briefly discuss the
Expert System Development Life cycle
(ESDL).

5. Write short notes on *any three* of the following : 3x5=15
- (a) Backword Vs. Forward chaining.
 - (b) State Space Representation.
 - (c) Semantic Representation as a tool for Knowledge Representation.
 - (d) Fuzzy logic.
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