

Reg. No.

--	--	--	--	--	--	--	--	--	--

**BCACAC 305**

**Credit Based Fifth Semester B.C.A. Degree Examination, Nov./Dec. 2010**  
**ARTIFICIAL INTELLIGENCE**  
**(New Syllabus)**

Time : 3 Hours

Max. Marks : 100

*Note : Answer any ten questions from Part A and any one full question from each Unit in Part B.*

**PART - A**

1. a) Which are the task domains of AI ?

(10×2=20)

b) What does production system consists of ?

c) What are the advantages of breadth first search ?

d) Differentiate intensional and extensional representations with examples.

e) Define declarative knowledge with example.

f) What is rote learning ?

g) Differentiate top down parsing with bottom up parsing.

h) What are the steps of explanation based generalization ?

i) Write a LISP function that returns minimum of 3 numbers.

j) Write a note on PROLOG.

k) What is the use of lambda function in LISP ? Explain.

l) How to use arrays in LISP. Explain with eg.

**Shri Dharmasthala Manjunatheshwara**  
**College of Business Management Library**  
**MANGALORE - 575 003**

P.T.O.



## PART – B

## UNIT – I

2. a) Explain the algorithm for hill climbing with an example.
- b) Given two jugs, a 4 gallon one and 3 gallon one. Neither has any marker on it. There is a pump that can be used to fill jugs with water. How can you get exactly 2 gallon of water into the 4 gallon jug ? List all production rules. Describe the solution by applying production rules. Write one possible solution. (5+15)
3. a) Explain the terms local maximum, plateau and ridges. How to deal these problems ?
- b) Define Monotonic, partially commutative and commutative production systems.
- c) Explain best first search algorithm with example.
- d) Write generate and test algorithm. (6+5+6+3)

## UNIT – II

4. a) With suitable example, explain predicate logic with representation of facts.
- b) Explain inheritable knowledge and write property inheritance algorithm. (10+10)
5. a) What are the approaches to knowledge representation ?
- b) Explain the various properties of attributes which are independent of specific knowledge they encode.
- c) Explain inferential knowledge with example.
- d) Explain granularity of representation. (4+10+3+3)

## UNIT – III

6. a) Write Graph Unify theorem.
- b) What are the ways of handling sentences in natural language processing ?
- c) What is learning by parameter adjustment ? Explain.
- d) Explain learning with macro operator. (5+5+5+5)



7. a) Explain lexical processing.  
b) Explain case grammars with example.  
c) What is Winston's Learning system ? How it is different from goal of version space ? (5+5+10)

UNIT – IV

8. a) Explain expert system shells.  
b) Explain any six predicate calls with suitable examples.  
c) Write a note on property list with an example.  
d) Write a note on internal storage for representation of list. (4+6+6+4)
9. a) Explain any six list manipulation functions with examples.  
b) How we can construct local variable in LISP ? Explain with example.  
c) Explain expert system characteristics.  
d) Explain most commonly used I/O functions in LISP. (6+4+5+5)

Shri Dharmasthala Manjunatheshwara  
College of Business & Administration  
MANGALORE - 575 003  
Library