

Reg. No.

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

BCACAC 316

**Credit Based Fifth Semester B.C.A. Degree Examination, Oct./Nov. 2017
(Common to All Batches) (New Syllabus)**

ARTIFICIAL INTELLIGENCE

Elective : Stream – II

Time : 3 Hours

Max. Marks : 100

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

PART – A

1. a) What is Artificial Intelligence ? (10×2=20)
- b) Define knowledge acquisition.
- c) Write two application areas of AI.
- d) List out the requirements of good control strategies.
- e) Define the terms heuristic and heuristic function.
- f) Define belief and hypothesis.
- g) What is the difference between declarative knowledge and procedural knowledge ?
- h) What is parsing ?
- i) What do you mean by Morphological ?
- j) List the application areas of expert system.
- k) How to access arrays in LISP with example ?
- l) Write the lisp function that returns maximum of three numbers.

P.T.O.



PART – B

Unit – I

2. a) Explain depth first search with algorithm and state its advantages.
b) Explain Best-First search with algorithm.
c) Define monotonic, partially commutative and commutative production system.
d) Explain the problems that arise in steepest ascent hill climbing and specify the solution. (5+5+5+5)
3. a) State water jug problem. Write production rules for the problem and suggest any one solution.
b) Write the problem – reduction algorithm.
c) Write and explain generate and test algorithm. (10+6+4)

Unit – II

4. a) Explain inheritable knowledge. Write an algorithm for property inheritance.
b) Explain the properties that should be possessed by a good knowledge representation system.
c) Explain with example how computable function and predicates are useful for representing facts. (10+5+5)
5. a) Define the properties that should be possessed by a good knowledge representation.
b) Explain granularity representation of knowledge.
c) What are the combination of symbols and rules permitted in FOPL ?
d) How to represent set of objects in knowledge representation ? (5+5+5+5)

Unit – III

6. a) Explain Augmented transition network with example.
b) Explain the factors affecting the learning performance.
c) Write a note on transformational grammar. (10+5+5)



- 7. a) Write a note on case grammar.
- b) Explain lexicon.
- c) Explain Chomsky Hierarchy of generator grammar.
- d) Explain the general learning model with neat diagram.

(5+5+5+5)

Unit – IV

- 8. a) Explain any five characteristics of expert system.
- b) Explain the components of typical expert system.
- c) Explain the input/output functions in LISP.
- d) Explain any five list manipulation function in LISP with example.

(5+5+5+5)

- 9. a) Write a note on the following with reference to LISP :

- i) Mapping function
- ii) Property list

- b) What is the use of lambda function in LISP ? Explain.
- c) Explain any five predicate function with example.
- d) Explain the iteration constructs available in LISP.

(6+4+5+5)