

Roll No.

97693

BCA 6th Semester

Examination – July, 2022

ARTIFICIAL INTELLIGENCE

Paper : BCA-308

Time : Three hours]

[Maximum Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. Answer the following questions briefly : $2 \times 8 = 16$
- (a) What is problem reduction ?
 - (b) Describe *two* major applications of AI.
 - (c) Explain best first search with an example.
 - (d) Discuss predicate logic briefly.
 - (e) Describe syntactic processing briefly.

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- (f) Differentiate between knowledge base and database.
- (g) Write the use and advantages of NLP.
- (h) Explain applications of learning.

UNIT - I

- 2. (a) Define Hill climbing. How is it useful and used ?
Discuss with examples. 8
- (b) Discuss AI, its importance and techniques with examples. 8
- 3. Explain the following briefly with suitable examples :
 - (a) Problem characteristics 4
 - (b) Issues in design of search problem 4
 - (c) Use of AI in problem solving 4
 - (d) Constraint satisfaction 4

UNIT - II

- 4. (a) Define predicate logic. How is it useful and used ? Explain with an example. 8
- (b) Explain various issues in knowledge representation with examples. 8
- 5. Describe the following with examples :
 - (a) Knowledge representation schemes 8
 - (b) Representing simple facts in logic 8

UNIT - III

- 6. (a) Define semantic processing. How is it used and useful ? Explain with examples. 8
- (b) Explain explanation based learning with examples. 8

7. Explain the following with examples :

- (a) Pragmatic processing 8
- (b) Learning in problem solving 8

UNIT - IV

- 8. (a) What are expert systems ? How these are used and useful ? Discuss with examples. 8
- (b) Explain knowledge acquisition and its stages with suitable examples. 8

9. Explain the following with examples :

- (a) Architecture of an expert system 8
- (b) Expert system shells 8