

## BCA (Honours) 5th Semester Examination, 2022

## Subject : Computer Application

## Course : BCA-505

Time: 4 Hours

Full Marks: 80

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words  
as far as practicable.**Answer any eight from Q1 and any four from the rest.*

1. Answer any eight questions:

2×8=16

- (a) What is tautology?
- (b) Define knowledge base.
- (c) What is the use of computer vision in AI?
- (d) What is reinforcement learning?
- (e) Explain rational agents.
- (f) What is inference engine?
- (g) What is Heuristic function?
- (h) What is overfitting?
- (i) What is Fuzzy Logic?
- (j) Define State Space Search.
- (k) What is WFF?
- (l) Represent the sentence 'All teachers like all students' in predicate formula.

Answer any four questions.

16×4

2. (a) What are some real life applications of AI?

(b) What is the difference between strong AI and weak AI?

(c) How agents are used in AI?

6+4+6

3. (a) Explain the commonly used Artificial Neural Networks.

(b) What is the Turing Test in AI?

(c) What is Game Theory? Is it related to AI?

8+3+5

4. (a) Discuss briefly A\* algorithm with example.

(b) What is the difference between breadth first and depth first search algorithm?

(c) What are iterative deeping DFS algorithm?

8+5+3

- 5. (a) What is an Expert System?  
(b) List the characteristics of the expert system. 2+7+7  
(c) What are the components of the expert system?
  
  - 6. (a) What are Bayesian Networks? How is it used in AI?  
(b) What is perceptron? 8+2+6  
(c) Discuss Alpha-beta pruning. 8×2=16
  
  - 7. Write short note (*any two*):
    - (a) Genetic Algorithm
    - (b) Natural Language Processing
    - (c) FOPL
    - (d) Fuzzy Logic
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