2020

B.C.A

[HONOURS]

Paper : BCA-306

Full Marks : 80 Time : 4 Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer **Q. No. 1** and any **four** from the rest.

1. Answer any **eight** questions: 2×8=16

   a) What is intelligence?

   b) Differentiate between knowledge base and database.

   c) What is supervised learning?

   d) What is computer vission?

   e) What is feature extraction?

   f) What is local minima and global maxima in Hill Climbing?

   g) How observation set is significant in training a system?

   h) Define perceptron.

   i) Name two blind search methods.

   j) What is wff?

   k) What is learning by induction?

   l) What is genetic algorithm?

2. a) Draw a 2–1–2 multilayer neural network. Explain.

   b) What is competitive network? Discuss.

   c) Discuss the training algorithm of a perceptron. (2+3)+5+6=16

3. a) What is propositional resolution? In its light explain the distribution law.

   b) Resolve the premise : $\neg(g \wedge (r \Rightarrow f))$.

   c) Explain first order predicate logic with example. (2+2)+6+6=16

4. a) What is Back propagation neural network? Discuss the architecture.

   b) What is maxnet? Discuss the architecture with diagram. (3+5)+(3+5)=16

5. a) Discuss clustering and classification.

   b) Describe Genetic Algorithm in terms of reproduction, crossover and mutation.

   c) What is Hamming Network?

(3+3)+6+4=16

6. a) What are the applications of Artificial Intelligence?

   b) What is Heuristic Search? Discuss two Heuristic search methods. 7+(3+3+3)=16

7. Write short notes on any **four** : 4×4=16

   a) Speech Processing.

   b) Application of NLP.

   c) Greedy Algorithm.

   d) A* Algorithm.

   e) Fuzzy logic.

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