44 (6) BCA–HE–6066

2023

ARTIFICIAL INTELLIGENCE

Paper : BCA–HE–6066

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following as directed : $1 \times 10 = 10$

   (a) What is AI ?

   (b) Which of the following is the branch of AI ?

   (i) Machine Learning

   (ii) Cyber Forensics

   (iii) Full Stack Developer

   (iv) Network Admin

   (Choose the correct one)

(c) Knowledge base consists of set of statement. (State True **or** False)

(d) What is the other name of informed search strategy ?
(i) Simple search
(ii) Heuristic search
(iii) Online search
(iv) None of the above

(Choose the correct one)

(e) Alpha Beta pruning reduces number of nodes explored in minimax strategy. (State True **or** False)

(f) Which of the following is an AI application ?
(i) MS Word
(ii) Database
(iii) Java
(iv) Fingerprint recognition

(Choose the correct one)

(g) Which of the following is a prolog variable ?
(i) 123 abc
(ii) Abc
(iii) abc
(iv) None of the above

(Choose the correct one)

(h) What is the full form of NLP ?

(i) _____ is an example of constraint satisfaction problem. *(Fill in the blank)*

(j) Which of the following is logical connective ?

    (i) &, 11, $\Rightarrow$

    (ii) &&, 11, =

    (iii) $\wedge$, $\vee$ $\rightarrow$

    (iv) All of the above

              (Choose the correct one)

2. Define the following terms :   2×5=10

    (i) Computer vision

    (ii) Intelligent agent

    (iii) Quantifiers

    (iv) Default reasoning

    (v) Random learning

3. Answer **any four** from the following :   5×4=20

    (a) What is Turing test ? Explain.

    (b) What are the advantages of depth first search (DFS) ?

(c) Describe the simple Hill climbing algorithm.

(d) Explain Alpha-Beta pruning.

(e) What is generate and test algorithm ? Explain.

4. Represent the following fact in predicate logic 5

(a) Marcus was a man.

(b) Marcus was a pompeian.

(c) All men are mortal.

(d) No mortal lives longer than 150 years.

(e) Marcus died in 79 AD.

5. Write a prolog program to calculate n^{th} Fibonacci number. 10

Or

Write a prolog program to find sum of two numbers.

6. Write short note on : *(any one)* 5

(i) Neural Nets

(ii) Different approaches to knowledge representation

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