23DAU635

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Sixth Semester)

Branch – **COMPUTER SCIENCE WITH DATA ANALYTICS**

ARTIFICIAL INTELLIGENCE

Time: Three Hours Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1 What is the name of the early AI programming language developed by John McCarthy?
(i) Python (ii) C++
(iii) LISP (iv) Java

2 Which of the following is NOT a key component of a backtracking algorithm for CSPs?
(i) Variable assignment (ii) Constraint checking
(iii) Backtracking mechanism (iv) Heuristic search

3 How many proposition symbols are there in artificial intelligence?
(i) 1 (ii) 2 (iii) 3 (iv) 4

4 A) Knowledge base (KB) is consists of set of statements.
B) Inference is deriving a new sentence from the KB.
Choose the correct option.
(i) A is true, B is true (ii) A is false, B is false
(iii) A is true, B is false (iv) A is false, B is true

5 Which of the following is the most commonly used metric to evaluate the performance of a linear regression model?
(i) Accuracy (ii) F1-Score
(iii) Mean Square Error (MSE) (iv) Log Loss

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6 a Describe the state of art in artificial intelligence?
OR
b Explain the key components of a well-defined problem in AI?

7 a Analyze Alpha-Beta Pruning.
OR
b Describe constraint propagation.

8 a Narrate Knowledge based agents.
OR
b Summarize logic propositional theorem proving

9 a Expalin Knowledge engineering in first-order logic.
OR
b Describe Forward Chaining.

10 a Analyze Supervised Learning.
OR
b Narrate Classification with linear model.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11 a Outline the structure of the Agents in AI.

OR

b Examine Uniformed search strategies of AI.

12 a Point out constraint satisfaction problems.

OR

b Discuss local search for CSPs.

13 a Point out Logical Agents.

OR

b Discuss Agents based on propositional logic.

14 a Enumerate Semantics of First-order logic.

OR

b Differentiate Propositional and First order inference.

15 a Summarize Evaluating and choosing the best hypothesis.

OR

b Analyze Artificial Neural Networks.

Z-Z-Z END