

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2022
(Sixth Semester)

Branch – COMPUTER SCIENCE WITH DATA ANALYTICS

ARTIFICIAL INTELLIGENCE

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

- 1) Artificial Intelligence is _____.
 - i) Making the Computer to play a smart game
 - ii) Making a machine Intelligent
 - iii) Programming on Machine with human's own Intelligence
 - iv) Inducing the intelligence of human in Machine
- 2) Find the best suitable option with regard to AI.
 - i) Gaming ii) LISP & PROLOG iii) Turing Test iv) Predictive LogicOptions:
A) all i,ii,iii & iv B) I & II only C) I & iv only D) ii & iv
- 3) A problem of preparing a schedule for a class of student is a type of
 - i) Search problem (ii) Back track problem
 - (iii) Constraint Satisfaction Problem (iv) Scheduling problem
- 4) Which of the following mentioned problems are CSP (Constraint Satisfactory Problems)?
 - i) N queens Problem ii) Map coloring problem
 - iii) Sudoku iv) puzzle solvingOptions: A) Only iv B) All i., ii., iii. and iv C) i and iii D) iii only
- 5) A) Knowledge base (KB) 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
- 6) The decision taken by the management for a problem is based on which of the following?
 - (i) Only current scenario
 - (ii) Existing scenario with some learnt knowledge from the textbooks
 - (iii) Existing scenario with some knowledge from the experience and from the learnt resources
 - (iv) Only from the solutions learnt from the books
- 7) What among the following could be the universal instantiation of
For all x good in maths(x) ^ good in analysis (x) => problem solver(x)
 - i) good in maths(Ram) ^ good in Analysis(Ram) =>problem solver(Ram)
 - ii) not good in maths(Ram) ^ not good in analysis(Ram) =>not a problem solver(Ram)
 - iii) good in maths(Ram) ^ not good in Analysis(Ram) =>problem solver(Ram)
 - iv) good in maths(Ram) ^ good in Analysis(Ram) =>not aproblem solver(Ram)Options: A) I & ii B) iii & iv C) ii & iii D) iii & iv
- 8) Ram is Running (A) ,
If a person is running, he will sweat (A->B),
Ram is sweating (B)
 - i) Backward chaining (ii) Forward chaining
 - ii) Reasoning (iv) Analyzing

Cont...

- 9) Which of the following is the model used for learning?
 i) Decision trees (ii) Neural networks
 iii) Propositional logic rule (iv) First order Logic rule
 A) all i,ii,iii,iv B) i,ii and iii only C) iii & iv only D) i & ii only
- 10) Which of the following is also called as exploratory learning?
 (i) Supervised learning (ii) Active learning
 (iii) Unsupervised learning (iv) Reinforcement learning

SECTION - B (25 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

- 11) a) Expound on the foundations of AI and structure of Agents.
 (OR)
 b) Discuss on Uninformed searching strategies.
- 12) a) Expound on Alpha-Beta pruning.
 (OR)
 b) What do you understand by Constraint Satisfaction Problem? Explain any one example which is best suitable for CSP.
- 13) a) What is Wumpus world game and how it can be solved by AI.
 (OR)
 b) Expound on knowledge based agents and logical agents.
- 14) a) Analyse the syntax and semantics of Predicate Logic.
 (OR)
 b) Propositional Vs First order Logic – Discuss.
- 15) a) Narrate the different forms of Learning.
 (OR)
 b) Discuss on Regression and Classification.

SECTION -C (40 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 8 = 40)

- 16) a) Converse the impact of AI in any 4 domains.
 (OR)
 b) Elaborate on Heuristic Search strategies and Heuristic Functions.
- 17) a) Write a detailed notes on Back tracking and Local search for CSP.
 (OR)
 b) Elaborate on optimal decision making in Gaming and adversarial searching.
- 18) a) Give a detailed explanation on Propositional logic.
 (OR)
 b) Discuss on Propositional theorem proving propositional model checking.
- 19) a) Expound on First order Logic.
 (OR)
 b) Discuss on i) Forward chaining ii) Backward chaining iii) resolution.
- 20) a) What is supervised learning? Is the Decision tree comes under Supervised Learning? Explain the learning strategy and methodology adopted in Decision tree.
 (OR)
 b) Discuss on ANN.