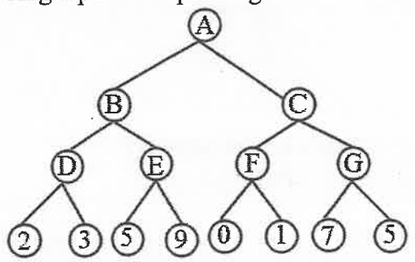
b. Solve the problem using alpha-beta pruning. 12 3 3 1



31. a. Describe various types of planning in detail. 12 1 4 2

(OR)

b. Explain the following 3 4 4
(i) Learning for decision making 6
(ii) Ensemble learning 6

32. a. Analyze and describe in detail about one best tool for image and video processing in MLaaS platform. 12 4 5 1

(OR)

b. Explain about different types of MLaaS. 12 2 5 1

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Reg. No.														

B.Tech. DEGREE EXAMINATION, MAY 2023
Sixth Semester

18CSC312J – ARTIFICIAL INTELLIGENCE AND APPLICATIONS IN CLOUD COMPUTING
(For the candidates admitted during the academic year 2018-2019 to 2021-2022)

Note:
(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

	Marks	BL	CO	PO
1. How many successors are generated in backtracking search? (A) 1 (B) 2 (C) 3 (D) 4	1	1	1	1
2. An algorithm is said as complete algorithm if (A) It ends with a solution (if any exists) (B) It begins with a solution (C) It does not end with a solution (D) It contains a loop	1	2	1	1
3. Satellite image analysis system is (choose the one that is not applicable) (A) Episodic (B) Semi-static (C) Single agent (D) Partially observable	1	1	1	3
4. Which of the following is the input and output of search algorithm respectively. (A) Sequence of actions, parameters (B) Solution, problem (C) Parameters, sequence of actions (D) Problem, solution	1	1	1	1
5. General algorithm applied on game tree for making decision of win/lose is (A) DFS/BFS search algorithms (B) Heuristic search algorithms (C) Greedy search algorithms (D) MIN/MAX algorithms	1	1	2	4
6. To which depth does the alpha-beta pruning can be applied? (A) 10 states (B) 8 states (C) 6 states (D) Any depth	1	1	2	1
7. DFS uses which data structure for execution. (A) Stacks (B) Queues (C) Tree (D) Graphs	1	1	2	5
8. The initial state and the legal moves for each side define the (A) Search tree (B) Game tree (C) State space search (D) Forest	1	1	2	1

9. Which method is effective for escaping local minima? 1 2 3 1
   (A) Eliminate heuristic minima (B) Reducing heuristic estimate
   (C) Removing heuristic estimate (D) Updating heuristic estimate

10. Which of the following statement is true? 1 2 3 3
   (A) All formal languages are like natural language (B) All context free languages
   (C) Natural languages are context oriented free (D) Not all formal languages are context free

11. What is the form of fuzzy logic? 1 1 3 1
   (A) Two-valued logic (B) Crips set logic
   (C) Many-valued logic (D) Binary set logic

12. The truth values of traditional set theory and that of fuzzy set is _____ and _____ respectively. 1 2 3 1
   (A) Either 0 or 1, between 0 and 1 (B) Between 0 and 1, either 0 or 1
   (C) Between 0 and 1, between 0 and 1 (D) Either 0 or 1, either 0 or 1

13. The working memory of the problem solver is like its 1 1 4 1
   (A) Long term memory (B) Short term memory
   (C) No memory (D) Permanent memory

14. The SVMs are less effective when 1 2 4 1
   (A) The data is linearly separable (B) Data is clean and ready to use
   (C) Data is noisy and contains overlapping points (D) Data does not contain overlapping points

15. Reinforcement learning is a 1 1 4 1
   (A) Prediction based learning (B) Feed-back based learning
   (C) History-results based learning (D) Spontaneous learning

16. Which of the following is not an example of ensemble method 1 1 4 2
   (A) Adaboost (B) Decision tree
   (C) Random forest (D) Bootstrapping

17. Which of the following are the ways to speed up training? 1 1 5 1
   (A) Using good activation function (B) Using batch normalization
   (C) Ideal weight initialization (D) Using good optimizer

18. What types of computing technology refers to services and applications that runs through virtualized resources? 1 1 5 5
   (A) Distributed computing (B) Cloud computing
   (C) Soft computing (D) Parallel computing

19. Which one of the following is cloud platform by Amazon? 1 1 5 3
   (A) Azure (B) AWS
   (C) Cloud era (D) Snowflake

20. Choose the correct IaaS provider 1 1 5 1
   (A) EC2 (B) EC1
   (C) EC10 (D) Hybrid

PART – B (5 × 4 = 20 Marks) Marks BL CO PO
Answer **ANY FIVE** Questions

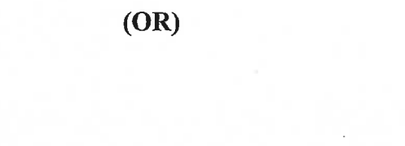
21. Replace every letter in the puzzle with single number ranging between 0 to 9 such that the resulting summation is correct. Two + Two = Four. 4 3 1 4

22. List down the applications of artificial intelligence. 4 2 1 1

23. Identify a suitable algorithm to find an optimal solution and write down the algorithm. 4 3 2 2

24. Differentiate between forward and backward reasoning. 4 3 4 1

25. Apply MEA to get the goal state. 4 3 4 1



26. Compare and contrast between ensemble and reinforced learning. 4 2 4 4

27. Describe the role of artificial intelligence in cloud computing. 4 1 5 5

PART – C (5 × 12 = 60 Marks) Marks BL CO PO
Answer **ALL** Questions

28. a. Solve the 8 puzzle problem. 12 3 1 3

1	2	3
5	6	
7	8	4

1	2	3
5	8	6
	7	4

(OR)

b. Write the algorithm to solve 8 queens problem (CSP) and explain the same. 12 1 1 4

29. a. Explain genetic algorithm with example. 12 2 2 1

(OR)

b. Explain and write down the algorithm of simulated annealing with examples. 12 1 2 3

30. a. Explain the knowledge representation using predicate and propositional logic with an unification algorithm. 12 1 3 4

(OR)