Enroll. No._____

MARWADI UNIVERSITY

Faculty of Faculty of Engineering/Technology/PG Studies

[(Computer Engineering] [B.E]

SEM: 7 MU FINAL EXAM/ MU FINAL REMEDIAL December: 2022

Subject: - (Artificial Intelligence) (01CE0702)) Date:- 08/12/2022

Total Marks:-100 Time: -10.30 to 1.30 PM

Instructions:

1. **All Questions are Compulsory.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Question: 1. [10]

(a) Objective MCQ (No. of Questions 10)

1. Which of the following language is a declarative language?
   A) C# B) Algol C) Prolog D)Java
2. What is the full form of PROLOG?
   A) Propositional Logic B) Programming in Logic C) Predicate Logic D) Programming Logic
3. What is used for probability theory sentences?
   A) Conditional logic B) Logic C) Extension of propositional logic D) None of these
4. Following are the type of supervised learning……..
   A) Regration B) classification C) Subgroup discovery D) All of the above
5. How is the compactness of Bayesian Network can be described?
   A) Locally structured B) Fully structured C) Partial structured D) All of the mentioned
6. Supervised learning and unsupervised clustering both require which is correct according to the statement.
   A) Input attribute B) Hidden attribute C) Output attribute D) Categorical attribute
7. Which Value is assigned to the alpha and beta in the alpha-beta pruning?
   A) Alpha = Max B) Beta = Min C) Beta = Max D) Both Alpha = Max & Beta = MIN
8. Any instance in which two different objects are compared is a … type of knowledge.
   A) Inheritable B) Relational C) Inferential D) Procedural

9. What is the space complexity of in Greedy approach?
   A) O(b) B) O(bl) C) O(m) D) O(bm)

10. Best first search can be implemented using the following data structure.
    A) Queue B) Stack C) Priority Queue D) Circular Queue

(b) Short Que. (answer in one sentence: No. of Questions 10) [10]

1. What was originally called “the limitation game” .
2. Best first search can be used using which data structure.
3. A star algorithm is based on which search.
4. What is the evaluation function in A star approach?
5. What is the consequence between a node and its predecessors while creating Bayesian network?
6. What is the use of '=' in prolog programming?
7. What is used for probability theory sentences?
8. Which search is similar to minimax search?
9. Predicate logic is also called as?
10. What is Artificial intelligence?

Question: 2.

(a) Compare abduction, deduction and induction [08]

(b) Write Simple Hill Climbing Algorithm, with an example. [08]

OR

(b) Discuss six type of Semantic network. [08]

Question: 3.

(a) What is Knowledge representation? Discuss all four type of it. [08]

(b) Explain sources of uncertainty. [04]

(c) What is Machine learning tasks? [04]

OR

(a) What Is Fuzzy Logic**?** Explain Fuzzy Set [08]

(b) What is supervised Machine learning [04]

(c) List the fields that form the basis for AI. [04]

Question: 4.

(a) What is classification? Explain any one classification technique. [08]

(b) What is Reinforcement learning? Discuss elements of Reinforcement learning. [08]

OR

(a) What is approximation? Discuss approximation in classification. [08]

(b) Explain Iterative deepening search in detail with examples. [08]

Question: 5.

(a) What is Propositional Logic? Discuss all Propositional Logic connectives. [06]

(b) Enlist Different type of search. [06]

(c) Explain Breadth First Search. [04]

OR

(a) Explain Knowledge Based System? [06]

(b) What is planning? Explain Memory based planning. [06]

(c) What is Blocks World Problem? [04]

Question: 6.

(a) What is Alfa-Beta pruning in Min-Max algorithm. Discuss with an example. [08]

(b) What is backward induction in Min-Max algorithm [04]

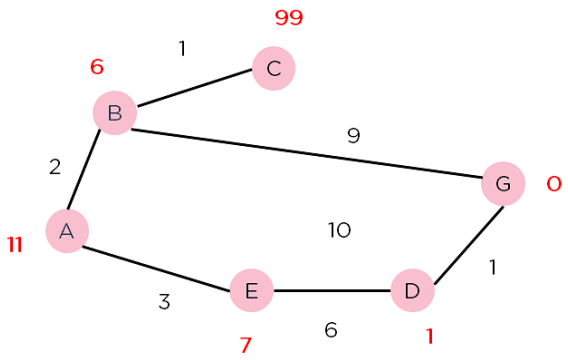
(c) Discuss Min-Max algorithm. [04]

OR

(a) State and explain probabilistic reasoning. [08]

(b) List the steps in performing a state-space search. [04]

(c) Solve Solve problem using A * algorithm. Here ‘C’ is starting node and ‘G’ is goal node. [04]



---Best of Luck---

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– Bloom'S Taxonomy Report –

Sub: AI (01CE0702)
Sem: 7
Branch: Computer Science

Que. Paper weightage as per Bloom's Taxonomy

LEVEL	% of weightage	Question No.	Marks of Que.
Remember/Knowledge	14 %	Q 3 A, B Q 1 A(1,2)	14
Understand	34%	Q 6 A,B, C, Q 3 C, Q 1 A(all) Q 1 A(3,4,5,6)	30
Apply	20%	Q 2 A, B, Q1 A(7,8,9,10)	20
Analyze	20%	Q 5 C Q 4 A, B	20
Evaluate	6%	Q 5 B	6
Higher order Thinking/ Creative	6%	Q 5 A	6

Chart/Graph of Bloom's Taxonomy