

**Faculty of Engineering and Technology**  
**Term-Test Question Paper – B. Tech.**

Department : Computer Science and Engineering  
Programme : B. Tech. (Computer Science and Engineering)  
Semester / Batch : 6<sup>th</sup> / 2018  
Date of Test : 07 Jun 2021  
Course Code : 19CSC312A  
Course Title : Artificial Intelligence

**Term Test-2**

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**INSTRUCTIONS TO STUDENTS:**

1. **Answer all questions**
2. Use only SI units
3. Use of non-programmable scientific calculator is permitted
4. Use of data handbook permitted wherever applicable
5. Missing data may be appropriately assumed
6. Notations used have usual meaning
7. **Mail the scanned answer sheets in PDF format within the stipulated time to your respective subject leader.** [subarna.cs.et@msruas.ac.in](mailto:subarna.cs.et@msruas.ac.in), [santoshi.cs.et@msruas.ac.in](mailto:santoshi.cs.et@msruas.ac.in), [rathvsm.cs.et@msruas.ac.in](mailto:rathvsm.cs.et@msruas.ac.in)

**Maximum Duration: 1 Hour 15 Mins**

**Maximum Marks: 25**

**IMPORTANT:**

You may take this question paper away at the end of the examination. Please keep it in a safe place for future reference

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**Question No. 1**

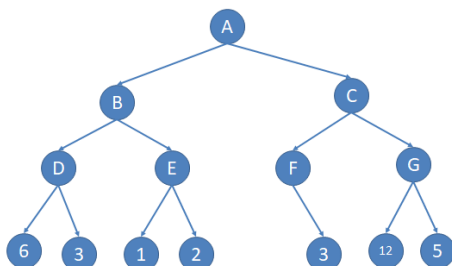
**(01 +04 marks)**

- a) Explain 'Zero Sum of Perfect Information' with respect to Games.
- b) Discuss MINI-MAX Algorithm with an example.

**Question No.2**

**(05 marks)**

Apply Alpha-Beta pruning algorithm to the following Game Tree with step wise diagrams (stating Alpha, State and Beta values in each state) and find the best move of MAX.



**Question No. 3****(03+02 marks)**

- a) Discuss Knowledge Base in Logic Agents. List the capabilities of KB Agents.
- b) Explain Logical Entailment with an example.

**Question No. 4****(02+03 marks)**

- a) Explain the following connectives in Propositional Logic with appropriate examples.
  - (i)  $P \Rightarrow Q$
  - (ii)  $P \Leftrightarrow Q$
- b) Outline the Algorithm of a Knowledge Based Agent with brief explanation

**Question No. 5****(5 marks)**

Consider the following Wumpus World. Assume the relevant conditions like Breeze and Stench in adjacent squares of Pits and Wumpus; Glitter in square of Gold; One Arrow etc. Write down the logical steps with percepts for our Agent to get the Gold. Trace the Return Path.

1,4	2,4 Wumpus	3,4 Gold	4,4
1,3	2,3	3,3 Pit	4,3
1,2	2,2	3,2	4,2
1,1 Start	2,1	3,1 Pit	4,1

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