Flat MID_II IMP QP for CAI FEB,2023 SHORT ANSWER QUESTIONS

- 1 Define PDA?
- 2. What is a Turing machine?
- 3. Differentiate PDA and TM.
- 4. What is meant by linear bounded automata?
- 5. Define P and NP Problems?
- 6. Differentiate Deterministic PDA and Non- Deterministic PDA.
- 7. What is the language accepted by TM?
- 8. Define NP Hard?
- 9. Define LR (0) Grammar?
- 10. List the properties of Recursive and Recursively Enumerable Languages.
- 11. What is meant by linear bounded automata?

LONG ANSWER QUESTIONS

- 1. Explain the CNF with an example.3M
- 2. a) Define Turing Machine. Explain its model with a neat diagram.
 - b) Design a Turing machine which accepts the following languages i) $L=\{a^nb^n \mid n\ge 1\}$.
- 3. Write short notes on Chomsky Hierarchy
- 4. Discuss in details about the Church's Hypothesis
- 5. Explain the following
 - a) Decidability b) Post Correspondence Problem c) Turing Reducibility
- 6. Explain the GNF with an example.3M
- 7. Explain the following
 - i)Multi tape Turing Machines ii) Restricted Turing Machines
- 8. Explain in detail the Universal Turing Machine.