

11. Explain the block diagram of Multi-tape Turing Machine with example.
12. Explain different languages and relation with the respective grammar with suitable example.
13. Construct DPDA for the following :
  - (a) Accepting the language of balanced parentheses. (Consider any type of parentheses)
  - (b) Accepting strings with number of a's is more than number of b's

## **MCA-302**

**June – Examination 2023**

### **MCA (IIIrd Year) Examination FORMAL LANGUAGE AND AUTOMATA Paper : MCA-302**

*Time : 3 Hours ]*

*[ Maximum Marks : 80*

**Note** :- The question paper is divided into three Sections A, B and C. Write answers as per the given instructions.

#### **Section-A**

**8×2=16**

#### **(Very Short Answer Type Questions)**

**Note** :- Answer all questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to **30** words. Each question carries 2 marks.

1. (i) Give examples for undecidable problems.
- (ii) What do you mean by Ambiguity in Context Free Grammars ?