BT-5/D-22   **45273**

AUTOMATA
Paper –PC-CS-AIML- 301A

Time : Three Hours]   [Maximum Marks : 75

Note : Attempt *five* questions in all, selecting atleast one question from each Unit. All questions carry equal marks.

UNIT-I

1. Describe the applications of Finite Automata.   (15)

2. (a) Explain the DFA and NFA.   (10)
   (b) Write a short note on closure properties of Regular languages.   (5)

UNIT-II

3. Write short notes on the following :
   (a) Chomsky theorem.
   (b) Normal forms of context free grammers.   (15)

4. Describe Pumping Lemma and its applications.   (15)

UNIT-III

5. Describe Equivalence of Moore and Mealey Machines and its Designing.   (15)

6. Discuss the following terms :

    (a) Deterministic Push Down Automata.

    (b) Applications of PDA.   (15)

UNIT-IV

7. Explain Restricted Turing Machines.   (15)

8. Describe the Post's Correspondence Problem.   (15)