COURSE CODE : CSA13

COURSE NAME : THEORY OF COMPUTATION

1. Write a C program to simulate a Deterministic Finite Automata (DFA) for the given language representing strings that start with a and end with a
2. Write a C program to simulate a Deterministic Finite Automata (DFA) for the given language representing strings that start with 0 and end with 1
3. Write a C program to check whether a given string belongs to the language defined by a Context Free Grammar (CFG)
   $S \rightarrow 0A1$ $A \rightarrow 0A \mid 1A \mid \varepsilon$
4. Write a C program to check whether a given string belongs to the language defined by a Context Free Grammar (CFG)
   $S \rightarrow 0S0 \mid 1S1 \mid 0 \mid 1 \mid \varepsilon$
5. Write a C program to check whether a given string belongs to the language defined by a Context Free Grammar (CFG)
   $S \rightarrow 0S0 \mid A$ $A \rightarrow 1A \mid \varepsilon$
6. Write a C program to check whether a given string belongs to the language defined by a Context Free Grammar (CFG)
   $S \rightarrow 0S1 \mid \varepsilon$
7. Write a C program to check whether a given string belongs to the language defined by a Context Free Grammar (CFG)
   $S \rightarrow A101A$ $A \rightarrow 0A \mid 1A \mid \varepsilon$
8. Write a C program to simulate a Non-Deterministic Finite Automata (NFA) for the given language representing strings that start with b and end with a
9. Write a C program to simulate a Non-Deterministic Finite Automata (NFA) for the given language representing strings that start with o and end with 1
10. Write a C program to find Ɛ-closure for all the states in a Non-Deterministic Finite Automata (NFA) with Ɛ-moves.
11. Write a C program to find Ɛ-closure for all the states in a Non-Deterministic Finite Automata (NFA) with Ɛ-moves.
12. Design DFA using simulator to accept the input string “a” ,”ac”,and ”bac”.
13. Design PDA using simulator to accept the input string aabb
14. Design PDA using simulator to accept the input string a^nb^2n
15. Design TM using simulator to accept the input string A^nB^n
16. Design TM using simulator to accept the input string A^nB^2n
17. Design TM using simulator to accept the input string Palindrome ababa
18. Design TM using simulator to accept the input string ww
19. Design TM using simulator to perform addition of ‘aa’ and ‘aaa’
20. Design TM using simulator to perform subtraction of aaa-aa
21. Design DFA using simulator to accept even number of a’s.
22. Design DFA using simulator to accept odd number of a’s
23. Design DFA using simulator to accept the string the end with ab over set {a,b)
    W= aaabab
24. Design DFA using simulator to accept the string having ‘ab’ as substring over the set {a,b}
25. Design DFA using simulator to accept the string start with a or b over the set {a,b}