**Automata assignment-1**

**\*About 2 mark questions.**

\*\***Write the answer to the points.**

1. What is a Finite automaton or finite static machine? Why we say that an automaton is finite automata?

2. What is the DFA? Write its tuple with meaning?

3. What is the language of DFA, NDFA and ˄ NDFA?

4. What is the NDFA and ˄ NDFA?

5. Write the differences between NDFA and DFA.

6. Draw the block diagram/model of finite automata

7. What is the transition function? How we represent transition function of finite automata? (Write about Transition graph and State matrix).

8. What is the extended transition graph?

9. What is the closure of the state in ˄ NDFA?

10. Why we minimize the DFA.

11. State the Myhill- Narode theorem.

12. What is the distinguishable string?

13. Write the application of finite automata.

14. Write the limitations of finite automata.

15. What is Mealy machine?

16. What is Moore machine?

17. Differentiate between Mealy machine and Moore machine?

**\*About 10 mark questions.**

**\*\* Proving Questions.**

18. Prove that if a language L is accepted by an NFA then there is a DFA that accepts L.

19. Prove that if a language L is accepted by an NFA with null transitions, then L is accepted by an NFA without null transitions.

20. Write an algorithm to minimize the given DFA using subset construction method.