1)

1. Is the FSM given Moore or Mealy?
2. Minimize the states for the FSM given
3. Encoding states after minimization using Prioritized adjacency method.
4. Create excitation table and output table, using T-flip-flop.
5. Draw the circuit.

**2)**  Write the algorithm to compute the expression:

Assuming R0 has the value zero.

1. Make the table of control word for the algorithm above.
2. Draw State transition diagram of the Control Unit
3. Create Next-state table and Output table for the Control Unit (using D-flip flop).

3) Design a 4-bit register that can perform 2 operations:

* load new data
* swap the second and third bit in the register

4) Design: RAM 128K x 32 using 32K x 8