## OR

4. a) Implement the following functions with 8 to 1 multiplexer :

$$
\begin{equation*}
f(A, B, C, D)=\sum m(0,2,3,6,8,9,14) \tag{8+8}
\end{equation*}
$$

b) Find the logic function which is being implemented by the MUX circuit-shown below:

(ABCDE are logic variable)

## Unit - V

5. a) Perform the following conversion : SR to JK.
b) Write short note on shift Register.

OR
5. a) Explaín various methods to generate positive and negative edges for triggering.
(10+6)
b) What is preset and clear in flip-flops? Explain it.

