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Section - 01

Q.1

Ans :- Hazards :- Hazards are unwanted switching transient that may appear at the output of a circuit because different paths exhibit different propagation delays.

2. Hazards occur in combinational circuits, where they may cause a temporary false-output value. When this condition occurs in asynchronous sequential circuits, it may result in a transition to a wrong stable state.

Types of Hazards :-

(1) Static-1 Hazard :- In response to an ~~output~~/input change and for some combination of propagation delays, a logic circuit may go to 0, when, it should remain constant 1, this transient is called static-1 Hazards.

(2) Static-0 :- In response to an input change and for some combination of propagation delays, a logic circuit may go to 1, when it should remain constant at 0, this transient is called static-0 Hazards.

(3) Dynamic Hazard:- When the O/P of logic circuit is changed from 0 to 1 or 1 to 0 to 1. these two outputs may change more numbers of times, this transient is called dynamic Hazards.

(4) Essential Hazards:- The static and dynamic hazard can occur in combinational as well as sequential logic circuits.

(i) We find that there are two output paths that contain combinational logic gates and sequential logic circuit.

(ii) it may so happen that certain paths may produce more delay than the other.