

7. The logic circuit whose output at any instant of time depends only on the present input but also on the past outputs is _____.
- (a) Flip-flops (b) Combinational circuits
(c) Latches (d) Sequential circuits
8. UP-DOWN counter is also known as _____.
- (a) Dual counter (b) Multi counter
(c) Multimode counter (d) None of the Mentioned
9. Table that is not a part of asynchronous analysis procedure is _____.
- (a) flow table (b) excitation table (c) state table (d) transition table
10. Asynchronous sequential logic circuit does not use _____.
- (a) clock pulses (b) time (c) outputs (d) inputs

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Define K-map and simplify $F(A,B,C,D)=\sum(0,1,2,5,8,9,10)$ in sum of products and product of sum using K-map. CO1-U (8)
12. Explain BCD adder. CO2-U (8)
13. Explain a combinational circuit using ROM that accepts a three bit binary number and outputs a binary number equal to the square of the input number. CO3-App (8)
14. Design a synchronous counter which counts in the sequence 000,001,010,011,100,101,110,111,000 using D-FF. CO4-App (8)
15. Design and demonstrate an asynchronous sequential circuit with inputs x1 and x2 and one output z. Initially and at any time if both the inputs are 0, output is equal to BTL-3 Apply 0. When x1 or x2 becomes 1, z becomes 1. When second input also becomes 1, z=0; the output stays at 0 until circuit goes back to initial state. CO5-App (8)