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Course Code: MCA-101

Course Name: Fundamentals of IT

Class Test 1

Time: 1 Hour

Max Marks: 20

Note: All questions carry 4 marks.

1. Design a circuit diagram using NOR gates only, for the following function:

$$F(A,B,C,D) = \Pi (0,1,2,3,4,6,8,9,10,11,12,14)$$

2. Solve the following:

a) Subtract 25_{10} from 750_{10} using r 's complement.

b) Subtract 1100011_2 from 111100_2 using $(r-1)$'s complement.

3. Design a circuit for $X'.Y.Z' + X.Z + X'.Y+Y'$ using NAND gates only.

4. Discuss prototype model with its advantages and limitations in detail.

5. Draw a flowchart to print the Fibonacci series, for n times inputted by the user.