UNIT TEST - I

B.Sc(CS) First Semester, Examination,2020-21
Subject: Computer System Architecture

Time: 1 Hour] **[Maximum Marks: 30**

Note: Question Number 1 is compulsory. Answer any three questions from the remaining.

Q1. (Give answer in short) **Marks : 6X2**

I. Describe X-NOR gate.

II. Implement AND gate from NOR gate.

III. Simplify the expression Y= $\overline{(\bar{B}+E).(D+\bar{F})}$ using De'Morgans Theorem.

IV. Draw function table and logic circuit of 2 X 1multiplexer.

V. Draw function table and logic circuit of 1 X 2 decoder.

VI. Use two input NAND gate only to implement Y=(DEFG)'

SECTION B **Marks:6X3**

Q2) Explain 3X8 decoder in detail.

Q3) Explain the working of 8 X 1 multiplexer in detail.

Q4) Describe the working of a binary counter.

Q5) Describe the working of a SR Flip Flop in detail.

Q6) a) Solve the following expression by using Boolean laws

(A+C)(A+D)(B+C)(B+D)

b) Solve the following expression using K-Map.

Y= ∑(0,1,2,3,4,6,8,9,1113,14,15)