V.P. & R.P.T.P. SCIENE COLLEGE
VALLABH VIDYANAGAR – 388 120
S.Y.BSc. EXAMINATION
THIRD SEMESTER
US03ECSC01 : DIGITAL ELECTRONICS
Saturday, 11th October - 2014

Time : 02:00pm to 03:00pm **Max.Marks : 25**

Q.1 Multiple choice of Question [3]

[1] The_____gate has two or more input signals. All inputs must be same to get a high output.

(A) EX-OR (B) NAND
(C) EX-NOR (D) NOR

[2] The relationship between a function and its binary variables can be represented in _____.

(A) truth table (B) decoder
(C) encoder (D) multiplexer

[3] A _____is logic circuit that can add two binary numbers.

(A) binary adder (B) decoder
(C) AND gate (D) OR gate

Q.2 Attempt any 2 questions [4]

[1] Write truth table for : ABC+A'B'C'

[2] Describe pair in k-map with example.

[3] What is Multiplexer?

Q.3 Explain NOR, NAND, NOT gate with example. [6]

OR

Q.3 Explain AND, XOR, XNOR gate with example. [6]

Q.4 [a] Simplify $F(A,B,C,D)=\sum(1,3,5,6,8,11,15)$ using k-map. [3]

[b] Simplify $F(A,B,C)=\Pi(4,6,2)$ using k-map. [3]

OR

Q.4 Define encoder. Explain 8x3 encoder in detail. [6]

Q.5 Explain 1's Complement adder-subtractor in detail. [6]

OR

Q.5 Explain 2's Complement adder-subtractor in detail. [6]