DIGITAL ELECTRONOICS

3rd Exam/ECE/Comp/IT/ETV/EMP/EEE/0262/0620/May 2015

Duration : 3hrs   **M.marks: 75**

Section-A

Q1. Fill in the blanks :   1x15

(a) A train of pulses is .... signal.

(b) Redix of actal no. Is ....

(c) BCD stands for ....

(d) ASCII code is a ....bit code .

(e) ECL stands for ....

(f) Statement of associative law is....................

(g) Boollean expression $D=\overline{A+B+C}$ is equal to .... gate .

(h) Half adder is also known as ....gate

(i) Multiplexer is also known as ....

(j) A flip flop is a memory element. (true /false)

(k) Module od 4 bit counter is ....

(l) SIPO stand for ....

(m) The fastest A/D conveter is ....

(n) IC 7400 is ....gate

(o) In k-map an octal eleminates .... variables .

Section –B   6x5

Note : Attempt any 5 questions :

Q.2. i.   Convert $(32)_5 = (?)_3$ MULTIPLY $(15)_{10}$ x$(8)_{16}$

ii.   What is parity , How can you detect errors using parity ?

iii.   Explain universal gates with diagrams.?

iv.   Draw the following expression $Y= \overline{C} + \overline{BD} + A\overline{D}$ using Nand gate ?

v.   Define Half substractor ?

vi.   What are the basic difference MUX and DEMUX?

vii.   Explain the function of JK flip flop ?

Section –C   10x3

Note : Attempt any three questions :

Q3   Explain synchronous Decode counter ?

Q4   (a) Explain tristate buffer ?

(b)   Application of shift register ?

Q5   (a) Explain full adder ?

(b) Explain 4 bits adder ?

Q6   Simply four variable function using K-map and draw the circuit

$F=\sum m(0 , 4, 12, 8, 9, 13, 7 ,15)$

Q7   (a) What is multiplexer? Draw a logic diagram of 4:1 multiplexer?

(b) What is race round condition? how can it be avoided?