Total No. of Questions :5] *[Total No. of Printed Pages :3*

Roll No .....

EC - 403

B.E. IV Semester

Examination, June 2015

Digital Electronics

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

UNIT - I

1. a) Convert $(340)_{10}$ to Excess - 3 code.

   b) Convert $FACE_{16}$ to binary.

   c) Subtract the following binary numbers :

      i) 1010 – 111

      ii) 11100 – 101

      iii) 101010 – 1010

   d) Write the names of different types of law of Boolean Algebra. Explain them in brief.

      OR

      Write the name of different types of logic gates. Explain two of them with diagram and truth table.

PTO

UNIT - II

2. a) State the procedure for designing combinational circuit.
   b) Define Half adder with diagram.
   c) Distinguish between multiplexer and demultiplexer.
   d) Draw the diagram of encoder and explain in detail.

OR

Draw the diagram of BCD adder and explain it in detail.

UNIT - III

3. a) What do you mean by register?
   b) Write the application of counter.
   c) Distinguish JK flip-flop and Master-Slave JK flip-flop.
   d) Explain R-S and D flip-flop with diagram.

OR

Explain synchronous and asynchronous counter with diagram.

UNIT - IV

4. a) What is data rate buffer?
   b) Compare EPROM and EEPROM.
   c) Explain dynamic RAM Cell in brief.
   d) Explain PLA with neat sketch diagram.

OR

Write short notes on :

i) RAM
ii) SRAM
iii) DRAM

UNIT - V

5. a) Explain RTL in brief.
   b) Why MOS logic families are preferred over TTL logic families.
   c) Distinguish between PMOS and NMOS.
   d) Write short notes on :
      i) IIL
      ii) DTL

OR

Write short notes on :

i) Interfacing
ii) CMOS

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