UNIT–II

3. Explain the laws related to Boolean Algebra. 16(20)

4. (a) Explain the following :

   (i) Sum of product (SOP).

   (ii) Min term. 6(8)

   (b) Find the De-morgan's equipment of

   $F = XYZ + XZ + \overline{X}\,\overline{Y} + YZ$ 10(12)

UNIT–III

5. Design a full subtracter using 3×8 decoder and OR gate. 16(20)

6. What is Shift register ? What are its types ? List application of shift register. 16(20)

UNIT–IV

7. Disquss the various types of A/D converters and also discuss the advantages and disadvantages of each. 16(20)

8. Discuss the performance criteria of a D/A converter. How these help in selecting a D/A converter ? 16(20)

UNIT–V

(Compulsory Question)

9. Answer the following :

   (a) $A + \overline{A}.B + A.\overline{B} = A + B$.

   (b) Comparison of Analog Versus Digital.

   (c) Combinational *versus* Sequential.

   (d) Advantages of CMOS over Bipolar tech.

4×4 (4×5)

Total No. of Questions - 9] Total Pages : 3

(2041)

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B.C.A. Ist Year Examination

DIGITAL ELECTRONICS

Paper : BCA-103

(New Syllabus)

Time : Three Hours] [Max. Marks : Regular : 80 / ICDEOL : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/ continuation sheet will be issued.

Note : Attempt *five* questions in all, selecting *one* question each from four units. Question No. 9 is compulsory.

UNIT–I

1. Draw the circuit of ECL gate and explain its operation. 16(20)

2. (a) What are Intrinsic and Extrinsic semiconductor ? Explain conductivity in intrinsic semiconductor. 12(15)

   (b) Discuss the working of n-p-n transistor. 4(15)