

E-3883
B. C. A. (Part-I) EXAMINATION, 2021
(OLD COURSE)

Paper Third

INTRODUCTORY ELECTRONICS

(101)

Time : Three Hours]

[Maximum Marks : 50

Note :-Attempt any two parts from each units. All questions carry equal marks.

UNIT -1

1. a. Distinguish among conductor, semiconductor and Insulator.
- b. Describe transistor as a switch. Draw and explain its schematic diagram.
- c. Draw and explain NAND circuitry in RTL family. Write down the specifications of RTL Family.

UNIT -2

2. a. Distinguish between Integrated circuit and Discrete circuit.
- b. Write down the steps to construct diode on monolithic integrated circuit.
- c. Write short notes on –
 - i. IC scaling
 - ii. Epitaxial layer

UNIT -3

3. a. Perform following :
 - i. $(45-75)_{10} = (?)_2$
 - ii. $(101101)_2 - (101)_2$ by using 1's complement.
- b. What do you understand by Excess-3 code?
- c. What do you mean by underflow and overflow?

UNIT -4

4. a. What is logic gate? Describe various basic gates in brief.
- b. What do you understand by SOP and POS form.?
- c. Simplify the following Boolean function in SOP form by using K-Map –
 $f(A, B, C, D) = \sum (0, 1, 2, 7, 10, 14) + d(3, 6, 15)$

UNIT -5

5. a. Draw and explain comparator combinational circuit.
- b. Draw and explain S-R. flip-flop using NOR gate.
- c. Distinguish between combinational and sequential circuit.
