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BCA (Part-I) Examination, 2022

THEORETICAL FOUNDATION OF COMPUTER SCIENCE

(Introductory Electronics)

[Paper : Third]

Time Allowed : Three Hours

Maximum Marks : 50

Minimum Passing Marks : 17

Note : Attempt all the **five** questions. **One** question from each unit is **compulsory**. All questions carry equal marks.

Unit-I

1. What are Transistors? Describe working process of CE amplifier.

OR

Explain the following :

(a) RTL

(b) DTL

(c) TTL

Unit-II

2. Explain the steps to construct a resistor in a monolithic IC.

OR

Briefly explain P-Substrate with suitable diagram.

Unit-III

3. Evaluate the following :

(a) $(1011011)_2 – (10010)_2$

(b) $(FA7C)_{16} = (\ ?\ )_8$

OR

Explain 1's and 2's complement with suitable example.

Unit-IV

4. What are the universal gates? Explain with suitable diagram.

OR

Explain the Karnaugh map with its types.

Unit-V

5. Draw and explain JK Flip-Flop with suitable diagram.

OR

What is a multiplexer? Draw and explain 4×1 MUX.

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