

BCA-03

June – Examination 2022

BCA (Part-I) Examination

BASIC ELECTRONICS

Paper : BCA-03

Time : 1½ Hours]

[Maximum Marks : 70

Note :- The question paper is divided into two Sections A and B. Write answers as per the given instructions.

Section-A

4×3½=14

(Very Short Answer Type Questions)

Note :- Answer any *four* questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to **30** words. Each question carries 3½ marks.

1. (i) Define Electric Current.
- (ii) What is Zener Diode ?

- (iii) What is Transistor ?
- (iv) Name different types of Universal Gates.
- (v) What is light emitting diode ?
- (vi) What is Register ?
- (vii) What do you mean by Encoder ?
- (viii) Name the three possible transistor actions.

Section-B **4×14=56**

(Short Answer Type Questions)

Note :- Answer any *four* questions. Answer should not exceed **200** words. Each question carries 14 marks.

2. Explain the potential divider method in detail. How stabilisation of operating point achieved by this method ?
3. Describe the construction and characteristics of P channel enhancement MOSFET. Also define the threshold voltage.
4. Draw the circuit diagram of a two stage RC coupled FET amplifier and its equivalent. Also analyse it to obtain its gain bandwidth product.

5. Explain the minimization through K-map for term :

$$F = \overline{A}BCD + \overline{A}BC\overline{D} + \overline{A}B\overline{C}D + \overline{A}\overline{B}CD + ABCD$$

6. Explain the superposition's theorem with an example.
7. Describe the functioning of single phase induction motor with neat and clean diagram.
8. Explain the action of a transistor as an amplifier. Derive expression for current gain, voltage gain, input impedance and output impedance in terms of *h* parameters.
9. Describe the intrinsic and extrinsic semiconductors with neat and clean diagram.