



BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Sc.(ANCS)-Hons-2023
Course Name – Fundamentals of Electronics
Course Code - BNC10001
(Semester I)



Full Marks: 60

Time: 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

- 1. Choose the correct alternative from the following:
- (i) Identify is the power rating of a resistor from the following?
 - a) The ability to handle a specific amount of current
 - c) The ability to dissipate heat without damage
- b) The ability to handle a specific amount of voltage
- d) The ability to change resistance values
- (ii) Choose the correct alternative of zener diode in case of voltage regulation
 - a) Operational Amplifier

b) MOSFET

c) Integrated Circuits

- d) None of these
- (iii) Identify is the primary function of a resistor in an electronic circuit?
 - a) To amplify signals

- b) To store electrical energy
- c) To provide resistance to the flow of current
- d) To regulate voltage levels
- (iv) Write the left hand section of a junction transistor called?
 - a) base

b) Collector

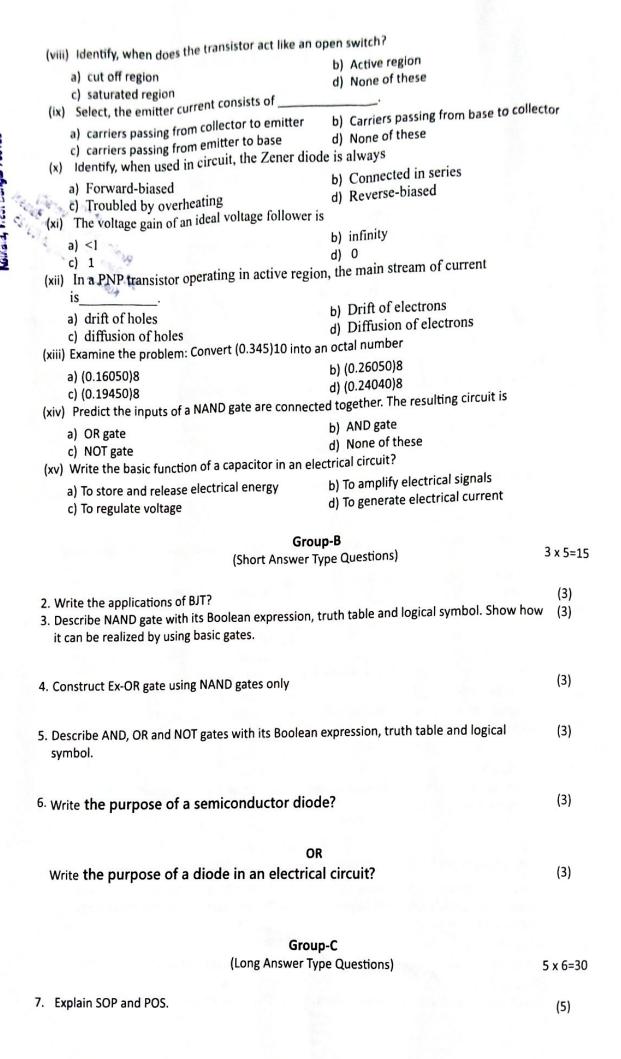
c) depletion region

- d) Emitter
- (v) Name the relationship between resistance (R), voltage (V), and current (I) in a resistor according to Ohm\\\'s Law?
 - a) R = IV

b) V = IR

c) I = RV

- d) V = RI
- (vi) Identify, which of the following is true in construction of a transistor?
 - a) the collector dissipates less power
 - c) the collector is made physically larger than the emitter region
- b) The emitter supplies minority carriers
 d) The collector collects minority charge carriers
- (vii) Identify, which of the following are true for a PNP transistor?
 - a) the emitter current is less than the collector current
- b) The collector current is less than the emitter current
- c) the electrons are majority charge carriers
- d) The holes are the minority charge carriers



8. Illustrate D flip-flop with its truth table, circuit diagram and working principle	(5)
9. Explain the construction of transistor with diagram.	(5)
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11. Deduce the relation between β and $\alpha.$	(5)
12. Write a short note about Intrinsic Semiconductor with proper diagram OR	(5)
Creat a short note about Extrensic Semiconductor with proper diagram	(5)
