



C14-EC-302

4238

BOARD DIPLOMA EXAMINATION, (C-14)
OCT/NOV—2015
DECE—THIRD SEMESTER EXAMINATION
ELECTRONIC DEVICES AND CIRCUITS

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

1. Define β , α and μ of a transistor.
2. State the reasons for wide use of CE amplifier.
3. List the types of biasing circuits.
4. State the need for multistage amplifiers.
5. List the merits of negative feedback amplifiers.
6. Classify power amplifiers based on conduction.
7. State the condition for an amplifier to work as an oscillator.

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8. Compare ^{*}JFET and MOSFET.
9. List any three applications of photovoltaic cells.
10. Draw transistor circuit to drive a relay.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

11. Explain the construction and working of *n*-channel JFET.
12. Draw the practical transistor CE amplifier and explain the function of each component.
13. Explain the operation of Darlington pair with the help of circuit diagram.
14. Compare positive and negative feedback. Explain how negative feedback improves stability.
15. Explain the working of transistor push-pull power amplifier circuit.
16. Explain the construction and principle of operation of depletion type *n*-channel MOSFET.
17. Explain the construction, working principle and characteristics of LED and opto-coupler.
18. Explain the operation of transistor shunt voltage regulator.

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