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C14-EC-302

4238

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DECE - THIRD SEMESTER EXAMINATION

ELECTRONIC DEVICES AND CIRCUITS

Time : 3 hours]

[Total Marks : 80

PART—A

4×5=20

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **four** marks.
(3) Answers should be brief and straight to the point and should *not* exceed five simple sentences.

1. Draw the drain characteristics of FET.
2. Draw the circuit of Darlington pair.
3. List the types of biasing circuits.
4. Classify amplifiers based on coupling.
5. Compare voltage and power amplifiers.
6. Define positive and negative feedback.
7. Draw the circuit diagram of crystal oscillator.
8. Draw the circuit symbols of varactor diode and LED.
9. List the applications of LCD.
10. Draw the diagram of twilight switch circuit using LDR.

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PART—B

15×4=60

- Instructions :** (1) Answer *any four* questions.
(2) Each question carries **fifteen** marks.
(3) Answers should be comprehensive and criteria for valuation is the content but *not* the length of the answer.

11. Explain the input and output characteristics of transistor in CB mode.
12. Draw the circuit diagram of practical transistor amplifier and explain.
13. Draw the circuit diagram of Transformer coupled amplifier and explain.
14. Explain the working of transistor pull amplifier.
15. Explain the working of Colpitts Oscillator.
16. Explain the operation of depletion MOSFET.
17. Explain the operation of phototransistor.
18. Explain the operation of shunt voltage regulator.

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