4038

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DECE - FIRST YEAR EXAMINATION

BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

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 shall not exceed five simple sentences.

1.   State ohms law. Give relation between voltage, current and resistance.

2.   Define the terms absolute and relative permeability.

3.   Define the term capacitance and draw the circuit symbol of capacitor.

4.   Compare primary and secondary cells.

5.   Define Q factor of a coil.

6.   List different resistors.

7.   What is meant by switch? Draw its circuit symbol.

8.   List soldering methods of PCBs.

9.   Draw the reverse characteristics of Zener diode.

10.   Draw the circuit diagram of full wave rectifier.

PART—B

15×4=60

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

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

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Derive the expression for equivalent resistance for 3 resistors connected in series.

12. Explain the equivalent capacitance of 3 capacitors connected in parallel.

13. Explain polarisation or back e.m.f.

14. Define the terms period, frequency and amplitude of sine wave.

15. Explain the colour coding of resistance.

16. Explain the construction and working of general purpose relay.

17. Explain the working of *p-n* diode in forward bias.

18. Explain the working of full wave rectifier.

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