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C14–EC–105

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BOARD DIPLOMA EXAMINATION, (C–14)

JUNE—2019

DECE—FIRST YEAR EXAMINATION

BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

Time : 3 hours] *Total Marks* : 80

PART—A 3×10=30

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

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

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define the term temperature co-efficient of resistance.

2. State Biot-savart's law.

3. Define dielctric strength and dielectric constant.

4. List any four fifferences between primary and secondary cells.

5. Define *(a)* amplitude *(b)* frequency *(c)* time period.

6. List the specifications of resistors.

7. Give the specifications of relay.

8. List different methods of soldering.

9. Distinguish between extrinsic and intrinsic semiconductors.

10. What is the need for regulated power supply?

PART—B

10×5=50

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

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

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

11. Describe the formula for equivalent resistance of three resistance connected in *(a)* series *(b)* parallel.

12. *(a)* Distinguish between electric and magnetic circuits.

(b) Explain constant current and constant voltage method of charging of batteries.

13. What is meant by Coulomb's law of electrostatics? Derive the expression of force between two charged bodies.

14. Explain effect of AC through RC series circuit.

15. Explain with neat sketch the constructional details of the carbon and wire wound potentiometers.

16. Explain the working of *(a)* toggle *(b)* rotary switches. Also list their specifications.

17. *(a)* Give the basic steps involved in photo printing.

(b) Sketch the forward and reverse characteristics of a semi conductor diode and explain briefly.

18. With a neat sketch explain the working of half wave rectifier.

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