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C16–AEI–105

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BOARD DIPLOMA EXAMINATION, (C–16)

MARCH/APRIL—2017

DAEI—FIRST YEAR EXAMINATION

ELECTRONIC COMPONENTS AND DEVICES

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. Classify the types of resistors.

2. List any three common faults in capacitors.

3. Define the term self-inductance.

4. Sketch the ISI symbols of SPST, SPDT and DPST switches.

5. Define microphone.

6. Distinguish between drift and diffusion current.

7. Define extrinsic semiconductor.

8. Draw the circuit diagram of CB configuration.

9. List any three uses of storage batteries.

10. List any three materials used in soldering.

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. Define temperature coefficient of resistance and derive the relation $R_t \quad R_0(1 \quad {}_0 t)$.

12. Find the equivalent capacitance of capacitors when two capacitors are connected in parallel.

13. Find the equivalent inductance when two inductors are connected in series opposing.

14. Explain the working of rotary switch and write its applications.

15. *(a)* Explain the principle of magnetic headphones. 5

(b) Explain the grid system in PCB. 5

16. *(a)* Draw and explain the working of clipper circuit using diode. 7

(b) Distinguish Zener breakdown and Avalanche breakdown. 3

17. *(a)* Explain the working of n-p-n transistor. 7

(b) Give any one difference between CB, CE, CC configurations. 3

18. *(a)* Explain the operation of simple Zener regulator. 7

(b) Define Average value of an AC sinusoidal quantity. 3

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