C09–AEI–**105**

3010

BOARD DIPLOMA EXAMINATION, (C–09)
OCT/NOV—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. List any three applications of wire wound resistors.

2. What are the factors affecting the capacitance of a capacitor?

3. Classify inductors based on core material used.

4. State the need of fuse in electronic equipment.

5. Mention the use of woofers and tweeters.

6. What are majority and minority carriers in *P*-type and *N*-type semiconductors?

7. Draw the symbols of semiconductor diode and Zener diode, and mention one application of each diode.

8. Define I_{CEO} and write the collector current expression for common-emitter transistor.

9. What is the need for a filter circuit in power supplies?

10. List the methods of layout preparation of PCB.

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. *(a)* Describe constructional details of wire wound potentiomenters.

(b) Compare the features of carbon and wire wound potentiometers.

12. Find equivalent capacitance of capacitors connected in *(a)* series and *(b)* parallel.

13. Explain the working of transformer.

14. Explain the construction and working of general purpose electromagnetic relay.

15. *(a)* Disginguish between intrinsic and extrinsic semiconductors.   4

(b) Explain the formation of *P*-type semiconductor.   6

16. Explain the working of PNP transistor.

17. Explain the operation of simple Zener regulator.

18. *(a)* Explain the working of carbon microphone.

(b) Explain the steps involved in making double sided PCB.

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