



C14-AEI-105

4047

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—2018

DAEIE—FIRST YEAR EXAMINATION

ELECTRONIC COMPONENTS AND MATERIALS

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. Write any three specifications of resistor.
2. List any three applications of rheostat.
3. Write any three losses in capacitors.
4. Write any three factors affecting the capacitance of a capacitor.
5. Define the mutual inductance.
6. List any three types of connector.
7. Define loudspeaker.
8. Write any three types of laminate used in PCB.

- * 9. Write any three examples of superconductors.
10. Define insulating materials.

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. Explain the constructional details of wire-wound potentiometers.
12. (a) Derive the expression for equivalent capacitance of capacitors connected in parallel. 6
(b) Find the equivalent capacitance, when two capacitors of 40 mF and 60 mF are connected in parallel. 4
13. (a) Derive the expression for the equivalent inductance when the two inductors are connected in series aiding. 6
(b) Draw the symbols of iron-core and air-core inductors. 4
14. (a) Sketch the ISI symbols of SPST, SPDT, DPST and DPDT switches. 6
(b) State the need of fuse in electronic equipment. 4
15. Explain the principle of magnetic headphone with diagram and list any three uses.
16. Explain the methods of etching and drilling of PCB.
17. Explain the following general properties : 5+5=10
(a) Conductivity
(b) Resistivity
18. Explain hard magnetic materials with examples.
