



C09-AEI-606 A

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**BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2013
DAEI—SIXTH SEMESTER EXAMINATION
POWER ELECTRONICS**

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

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

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

1. Draw the ISI symbol of triac and diac.
2. Mention the ratings of SCR.
3. Classify converters.
4. Draw the circuit of single-phase full-wave fully controlled converter.
5. Classify inverters.
6. Draw the circuit diagram of 3-phase inverter circuit.
7. Mention the factors affecting the speed of DC motor.

8. List the factors affecting speed of AC motors.
9. List the types of disturbances in commercial power supply.
10. List the storage batteries used in UPS.

PART—B

10×5=50

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

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

11. Draw the circuit diagram of SCR circuit triggered by UJT and explain its operation. 10
12. (a) Draw the *VI* characteristics of diac. 5
(b) Explain the working of single-phase full-wave AC regulator with resistive load. 5
13. Explain the working of operation of 3-phase half-wave controlled converter with resistive load. 10
14. Explain the working of single-phase center-tapped cyclo-converters. 10
15. Describe the speed control of DC shunt motor using chopper. 10
16. Explain the speed control of induction motor using converters and inverters. 10
17. Draw and explain the burglar alarm circuit using SCR. 10
18. Draw and explain the battery charger circuit using SCR. 10

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