

4744

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DEEE - SIXTH SEMESTER EXAMINATION

POWER ELECTRONICS

Time : 3 hours]

[Total Marks : 80

PART—A

4×5=20

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **four** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. List any four types of Thyristor family devices.
2. List the advantages of SCR.
3. State the modes of TRIAC triggering.
4. Classify converters.
5. What is the need of freewheeling diode?
6. Draw the circuit diagram of series inverter.
7. List the applications of cyclo-converters.
8. List the factors affecting the speed of DC motors.
9. List the factors affecting the speed of AC motors.
10. List the applications of power electronic circuits.

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PART—B

15×4=60

- Instructions :** (1) Answer *any four* questions.
(2) Each question carries **fifteen** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the volt-ampere characteristics of SCR.
12. Explain the SCR triggering circuit using UJT.
13. Explain the complementary commutation circuit of SCR.
14. Explain the working of single phase half wave converter with resistive load.
15. Explain the working of single phase AC voltage regulator.
16. Explain the working of single phase bridge inverter.
17. Explain the speed control of DC shunt motor using converter.
18. Explain the working of light dimmer circuit using TRIAC and DIAC.

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