

3719**BOARD DIPLOMA EXAMINATION, (C-09)****APRIL / MAY - 2012****D.A.E.I. - VI SEMESTER EXAMINATION****POWER ELECTRONICS**

Time : 3 Hours]

[Total Marks : 80

PART - A**10×3 = 30**

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

- 1 Compare the characteristics of GTO SCR.
- 2 Draw the SCR circuit triggered by UJT.
- 3 State the need of freewheeling diode.
- 4 List the control modes of chopper.
- 5 Classify inverters.
- 6 Draw the diagram of cyclo converters.
- 7 Mention the factors affecting the speed of DC motors.
- 8 List the factors affecting speed of A.C. motors.
- 9 List the type of disturbances in commercial power supply.
- 10 List the storage batteries used in UPS.

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PART - B

5×10 = 50

- Instructions:** (i) Answer any five questions and each question carries ten marks.
(ii) The answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11 Explain the constructional details and V-I characteristics of DIAC.

12 Write short notes in :

- (a) Explain power control circuits of diacs.
(b) Explain the working principle of chopper.
(c) MCT.



13 Explain the working of three phase fully controlled converter with resistive load.

- 14 (a) Explain the working of voltage source converter. 5
(b) Explain the working of three phase converter. 5

15 Explain the speed control of induction motor by using AC voltage controller.

16 Explain speed control for DC shunt motor using converter.

17 Explain the light dimmer circuit using TRIAC and TRIAC with neat diagrams.

- 18 (a) Draw and explain the block diagram of an off-line UPS.
(b) Draw and explain the emergency lamp circuit using SCR.

