



C14-EE-604

**4746**

**BOARD DIPLOMA EXAMINATION, (C-14)**

MARCH / APRIL - 2019

**DEEE - VI SEMESTER EXAMINATION**

**POWER ELECTRONICS**

Time : 3 Hours]

[Total Marks : 80

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**PART - A**

**3×10=30**

**Instructions :**

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

- 1 List any three applications of power electronics.
- 2 State any three representations of SCR ratings.
- 3 Draw the symbols of :
  - (a) GTO SCR
  - (b) LASCR and
  - (c) SUS
- 4 Write a short note on variable frequency control method of choppers.
- 5 List any three applications of converters.
- 6 Classify inverters from any three aspects.
- 7 Define cyclo converters and list their types.
- 8 Write any three advantages of thyristor control of speed.
- 9 State the factors affecting the speed of AC motors.
- 10 Mention any three devices used for suppressing the voltage spikes.

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**PART - B****10×5=50**

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

- 11 Explain the VI characteristics of an SCR with neat diagram.
- 12 Draw and explain the working of an SCR circuit triggered by UJT.
- 13 Briefly explain class-B commutation of a thyristor with neat sketch.
- 14 Explain the operation of chopper in all four quadrants with neat diagrams.
- 15 Explain the working of a single phase full wave controlled converter under RL-load with neat sketch and wave forms.
- 16 Draw the circuit diagram of parallel inverter and explain its operation.
- 17 Explain the speed control of induction motor by using converter and inverter.
- 18 Write a short notes on :
  - (a) ON line UPS and
  - (b) Burglar Alarm circuit using SCR.