



C09-EE-604

**3765**

**BOARD DIPLOMA EXAMINATION, (C-09)**

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.

- 1 Compare SCR and LASCR in three aspects.
- 2 State the need of Commutation of SCR.
- 3 Draw the Volt-Ampere characteristics of Power BJT.
- 4 State the need of Free Wheeling Diode.
- 5 State the applications of Converters.
- 6 State the need of Inverter.
- 7 State the factors affecting the speed control of A.C.motors.
- 8 State the factors affecting the speed of a D.C.motor.
- 9 State the need of UPS.
- 10 State the devices used to suppress the Voltage spikes in supply voltages.

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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 Draw and explain the TRIAC firing, circuit using DIAC.
  - 12 Draw and explain the Volt-Ampere characteristics of DIAC.
  - 13 Explain the following operations of Chopper :
    - (a) Voltage frequency Control
    - (b) Constant frequency control
  - 14 Explain the working principle of Chopper with a neat sketch.
  - 15 Explain the working principle of Cyclo-Converter with a neat sketch.
  - 16 Explain the Working Single-Phase A.C.voltage controller with a sketch.
  - 17 Draw and explain the working of Burglar Alarm circuit using SCR.
  - 18 (a) State any five specifications of SCR.
    - (b) Draw the block diagram of OFF-Line UPS.
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