

TED (15) -5032  
(Revision- 2015)

**A20-00919**

Reg.No.....  
Signature. ....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE – APRIL -2020.

**POWER ELECTRONICS**

(Maximum Marks :75)

[Time :2.15 hours]

**PART–A**

Marks

**I.** Answer **any three** questions in one or two sentences. Each question carries 2 marks.

1. Draw the symbol of UJT and N channel JFET.
2. What is Forward Break Over Voltage of SCR.
3. What is extinction angle of converter.
4. Write any two methods of speed control of three phase Induction motor.
5. List the testing methods of UPS.

(3x2=6)

**PART - B**

**II** Answer **any four** of the following questions . Each question carries 6 marks.

1. Distinguish between JFET and BJT.
2. Describe single phase half wave converter with R load.
3. Describe the Half Bridge Inverter.
4. Explain Single phase semi converter DC drives with wave forms.
5. Explain solid state control of a typical fan regulator.
6. Draw the block diagram of static servo stabilizer.
7. Distinguish between linear power supply and SMPS.

[4x6 =24]

**PART - C**

(Answer **any of the three units** from the following. Each full question carries 15 marks)

**UNIT I**

**III** (a) Explain the structure and characteristics of UJT. (8)

(b) Explain N channel enhancement MOSFET. (7)

**OR**

- IV** (a) Describe the operation of DIAC. (8)  
(b) Explain the structure of SCR. (7)

**UNIT- II**

- V** (a) Describe single phase half wave converter with RL load. (7)  
(b) Explain the principle of DC chopper. (8)

**OR**

- VI** (a) Describe half bridge Inverter with wave forms. (8)  
(b) Give idea about the constant frequency control strategy of DC Chopper. (7)

**UNIT- III**

- VII** (a) Explain single phase Dual converter DC drive. (8)  
(b) Explain Stator voltage speed control of three phase Induction Motor. (7)

**OR**

- VIII** (a) Explain v/f control method of three phase Induction motor. (8)  
(b) Explain the concept of induction cooking system control. (7)

**UNIT – IV**

- IX** (a) Describe the principle of Pulse Width Modulation. (8)  
(b) Explain the principle of SMPS. (7)

**OR**

- X** (a) Describe line interactive UPS. (7)  
(b) Explain the operation of buck converter. (8)

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