Roll No. | | | | | | | | | | | | | Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(EPDT) (2016 & Onwards) (Sem.–1)

DESIGNING WITH POWER DEVICES

Subject Code : MTET-105

M.Code : 74139

Time : 3 Hrs. **Max. Marks : 100**

INSTRUCTION TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWENTY marks.**

1. a) What do you understand from power devices? What is the need of power devices? Name them & Explain its significance.

   b) Draw and explain in brief the VI characteristics of a GTO.

2. Explain the characteristics of Power BJT and power MOSFET. Also describe their physical layout and working with neat diagram.

3. Discuss the selection criteria of core material, insulating material and wires for transformer design. What is the importance of selection methodology of core material and insulating material?

4. What is PWM converter? Show and explain in detail the designing of transformer for PWM converter with neat diagram.

5. What are regulators? Explain their types also differentiate between the working of regulators.

6. Write short notes on following :

   a) Full bridge converter

   b) Characteristics of solar cell

7. Explain the concept of UPS. Differentiate between on line UPS and off line UPS. What are line interactive UPS systems?

8. a) How the design of input section, output section and control section helps in effective performance of power supplies?

   b) What is the need of high frequency transformers? How do they work? Discuss in detail.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.