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P496

SEAT No. :
[Total No. of Pages : 1

TE/Insem/APR - 23
T.E. (E & TC)
POWER ELECTRONICS
(2012 Pattern) (Semester - II)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Assume suitable data, if necessary.*

Q1) Draw the typical driver circuit for the IGBT. What are the advantages of IGBT over Power MOSFET? **[10]**

OR

Q2) a) Compare Power MOSFET with SCR. **[5]**

b) With the help of neat circuit diagram and waveforms explain the operation of Synchronised UJT triggering circuit for SCR. **[5]**

Q3) Draw the circuit diagram of single phase full converter with RL load. Explain its operation with suitable waveforms. Derive the equation for average output voltage. What is inversion operation of converter? **[10]**

OR

Q4) a) Explain various performance parameters of line commutated converter circuits. **[6]**

b) What are the advantages of three phase converters over single phase converters? **[4]**

Q5) With the help of a neat circuit diagram and waveforms, explain the operation of three phase VSI for star connected balanced resistive load when each switch is allowed to conduct for 120 degrees. **[10]**

OR

Q6) With the help of a neat circuit diagram and waveforms explain the operation of single phase full bridge inverter with RL load generating square wave. What is cross conduction? **[10]**

