

B.TECH. SEM -V (E & TC ENGG.) 2014 COURSE (CBCS) :

SUMMER - 2018

SUBJECT: POWER DEVICES AND MACHINES

Day : **Thursday** Time **10.00 AM TO 01.00 PM**
Date : **24/05/2018** **S-2018-2383** Max.Marks:60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Use of Non-programmable **CALCULATOR** is allowed.
 - 4) Assume suitable data if necessary.
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Q.1 Explain power BJT with respect to its construction, operation, switching characteristics and breakdown. (10)

OR

With the help of construction, operation and switching characteristics explain power MOSFET. (10)

Q.2 What is the advantage of using pulse transformer in the triggering circuit of an SCR? Also explain transistor analogy of SCR. (10)

OR

Describe TRIAC with respect to construction, characteristics and operational modes. (10)

Q.3 Explain single phase semi converter for RL load with circuit diagram and operational waveforms, also explain concept of line and forced commutation. (10)

OR

Write note on single phase AC voltage controller for RL load with operational results. (10)

Q.4 Explain 180° conduction and 120° conduction scheme of three phase inverter and compare them. (10)

OR

Discuss different modulation techniques in inverter, give their advantages. (10)

Q.5 Explain AC motor in detail with its construction, working principle and applications. (10)

OR

Write note on : Stepper Motor (10)

Q.6 Explain Electric Heating and Electric Welding in detail. (10)

OR

Write a note on : High voltage DC Transmission (10)

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