B-Tech- sem-V, (2014 course), E&TC winter-2018

B.Tech. SEM -V (E & TC Engg.) 2014 Course (CBCS) : WINTER - 2018
SUBJECT: POWER DEVICES AND MACHINES

Day : Thursday
Date : 29/11/2018

W-2018-2438

Time: 02.30 PM TO 05.30 PM
Max. Marks: 60

N. B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labeled diagram **WHEREVER** necessary.
4) Assume suitable data, if necessary.

Q. 1 Explain power MOSFET with respect to construction, operation and characteristics. **(10)**

OR

Explain power BJT with its structure and switching characteristics. **(10)**

Q. 2 Explain two transistor analogy of SCR with its triggering and isolation techniques. **(10)**

OR

Explain GTO with its applications. **(10)**

Q. 3 Write down the effects of freewheeling diode with output waveform for single phase converter. **(10)**

OR

Explain three phase full converter with neat circuit diagram and operational waveforms. **(10)**

Q. 4 Write down working principles of single phase bridge inverter for R and RL load. **(10)**

OR

How PWM technique is used for harmonic reduction in inverter? **(10)**

Q. 5 Write a note on 'Induction Motor'. **(10)**

OR

Explain DC motor with its working principles, construction and applications. **(10)**

Q. 6 Explain illumination and lightning control protocols. **(10)**

OR

Write a note on: **(10)**

a) Solar PV
b) LED Drives

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