

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-1 EXAMINATION- FEBRUARY -2018

B. Tech VI Semester

COURSE CODE: 10B1WEC611

MAX. MARKS: 15

COURSE NAME: Power Electronics

COURSE CREDITS: 4

MAX. TIME: 1 HRS

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. [4 marks] How does a Power Bipolar Junction Transistor used as a switch? Draw its V-I characteristics and explain the significance of saturation, active and cut-off regions.
2. [6 marks] Explain the two transistor analogy of an SCR and discuss the various triggering methods if $\alpha_1 + \alpha_2$ is unity.
3. [5 marks] Write short notes on following.
 - (i) Natural vs. Forced commutation
 - (ii) Phase angle control of rectifiers
 - (iii) Holding and Latching current
 - (iv) Depletion and Enhancement type MOSFET
 - (v) Overdrive factor and Forced β

JUIT T-1 EXAMINATIONS FEB 2018