

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST 1 EXAMINATIONS – FEBRUARY 2019

B.Tech II Semester (Backlog ECE/CSE/IT)

COURSE CODE: 10B11EC211

COURSE NAME: Basic Electronics Devices and Circuits

COURSE CREDITS: 04

MAX. MARKS: 15

MAX. TIME: 1HR

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

- Q1. Explain why trivalent impurities are called as acceptor type impurities while pentavalent impurities are called donor type impurities? [3]
- Q2. What do you understand by the term forbidden energy gap. draw the energy band diagram of insulator, semiconductor and conductor. [3]
- Q3. With the help of diode's V-I characteristics equation, explain why  $I_s$  is called reverse saturation current. [2]
- Q4. What are different mechanisms under which a reverse biased PN junction can breakdown? What is the most essential difference between these two mechanisms? [3]
- Q5. Determine  $I$ ,  $V_1$ ,  $V_2$  and  $V_0$  for the series dc configuration of the given circuit. [4]

