

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION- APRIL -2018

B. Tech (IInd Semester) (ECE/CSE/IT)

COURSE CODE: 10B11EC211

MAX. MARKS: 25

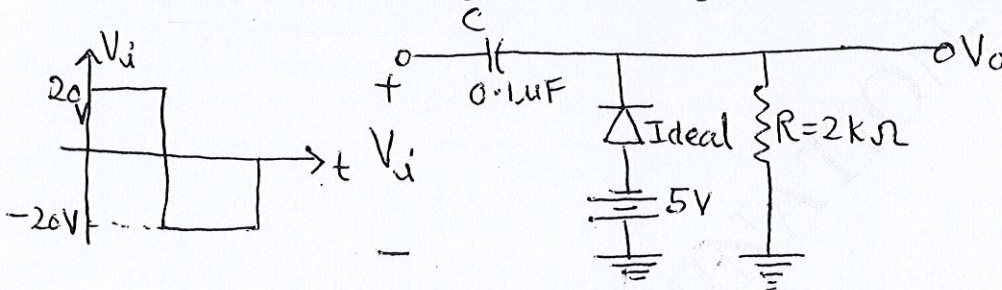
COURSE CREDITS: 04

MAX. TIME: 1.5 HR

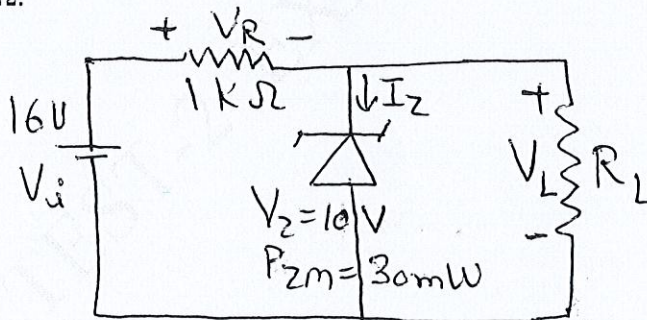
Note: All questions are compulsory. Carrying of mobile phone during examination will be treated as case of unfair means. Marks are indicated below each question

1. (a) In p-type semiconductor materials holes are in majority, whereas in n-type semiconductor materials electrons are in majority. Explain the reason with suitable diagram. [3]

- (b) Explain the working of the following circuit and draw the output waveform. [3]

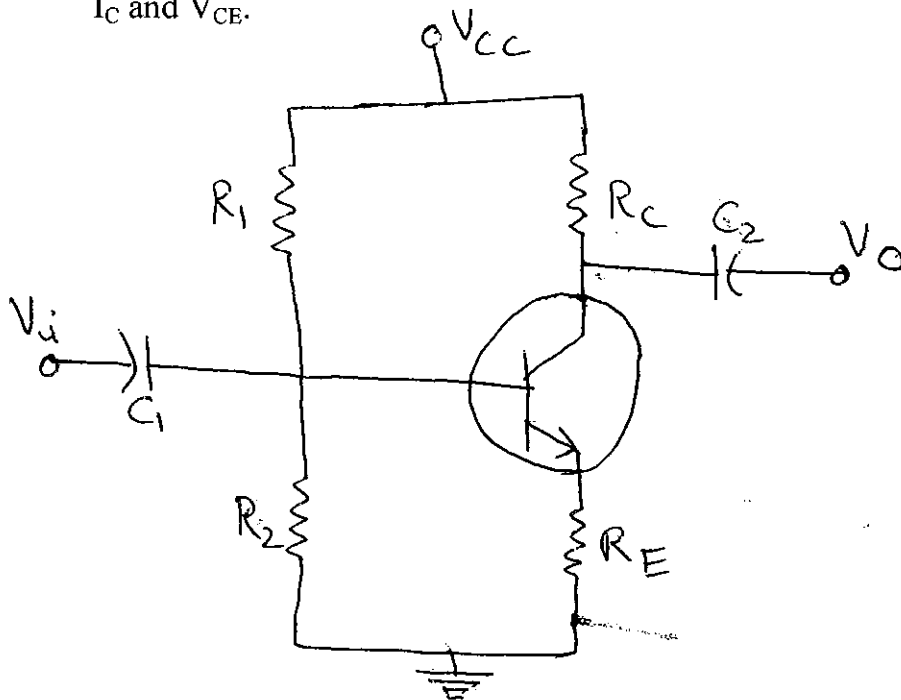


- (c) For the following circuit, determine the value of I_Z and V_L for (i) $R_L = 1.2 \text{ K}\Omega$ (ii) $R_L = 3 \text{ K}\Omega$. [3]



- 2 (a) Draw and explain the construction and working of pnp transistor in active mode. [3]
 (b) Draw the circuit diagram for common emitter, common base and common collector configuration, indicating input and output voltages and currents. [3]
 (c) Draw the input and output characteristic of common emitter configuration and show the saturation, active and cut-off region on the graph. [2]

- 3 (a) For the given circuit, draw the dc equivalent circuit and derive the expression for I_B , I_C and V_{CE} . [4]



- (b) Determine V_C and V_B for the given network: [4]

