

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION - October 2017

B.Tech 1st Semester (ECE, CSE, IT & CE)

COURSE CODE: 10B11EC111

MAX. MARKS: 25

COURSE NAME: ELECTRICAL CIRCUIT ANALYSIS

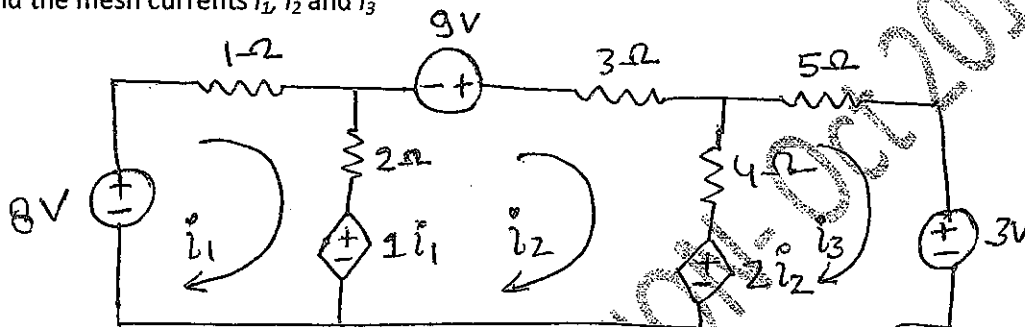
COURSE CREDITS: 4

MAX. TIME: 1½ Hrs

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

1 (a) Define planar and Non-planar network with examples. (2)

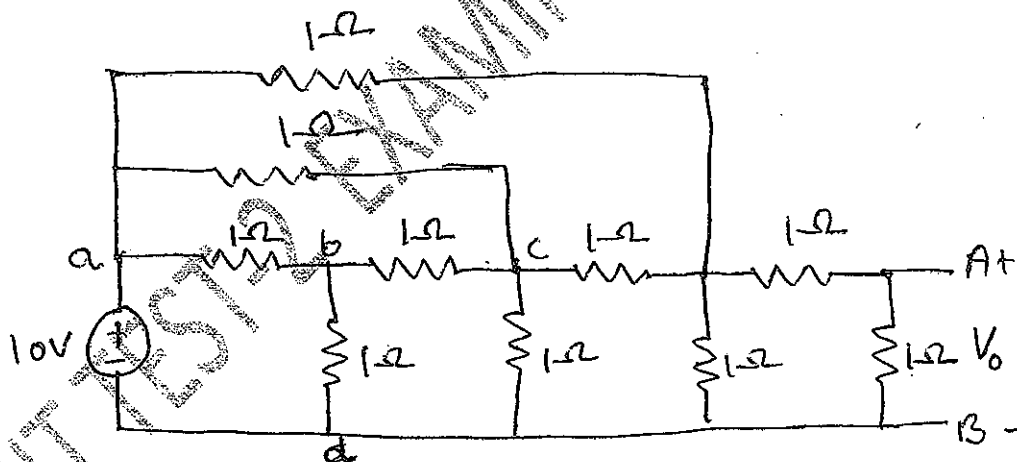
(b) Find the mesh currents i_1 , i_2 and i_3 (4)



2 (a) Derive the value of the load resistor R_L for maximum power transfer (2)

(b) Find V_o between terminals A and B. (4)

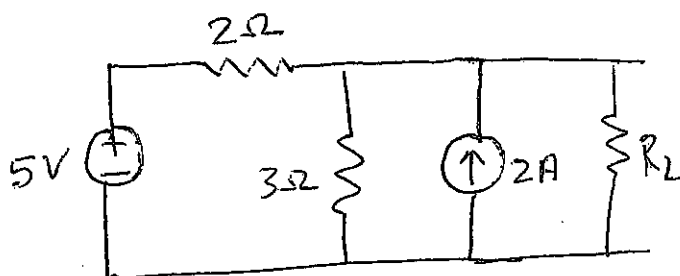
(Hint: reduce a-b-c-d first)



3 (a) State superposition theorem (2)

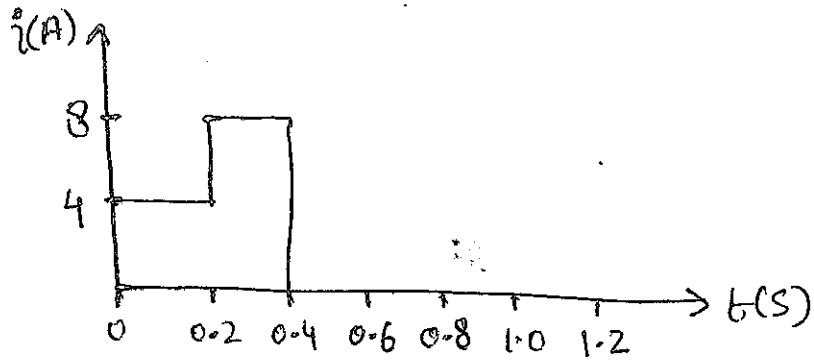
(b) For the given circuit find the current through the load resistance R_L for the following values: (4)

(i) 0Ω , (ii) 1Ω , (iii) 10Ω and (iv) 100Ω



4 (a) The current flowing through a $33\mu\text{F}$ capacitor is shown in the figure. Sketch the resulting voltage waveform.

(3)



(b) Find R_L for maximum power that can be transferred to the load in the circuit.

(4)

