Roll No.:.....

National Institute of Technology, Delhi

Name of the Examination: B. Tech.

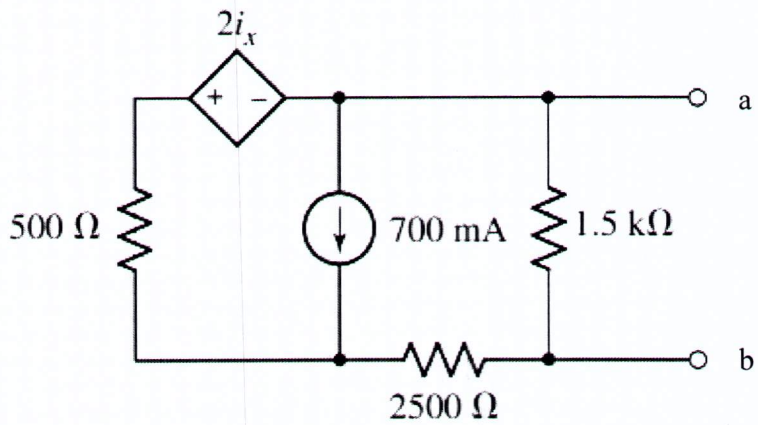
Mid-Semester Examination September, 2019

Branch	**: Electronics & Communication Engineering**	**Semester**	**: Third**
Title of the Course	**: Network Analysis and Synthesis**	**Course Code**	**: EEL 201**

Time: 2 Hours **Maximum Marks: 25**

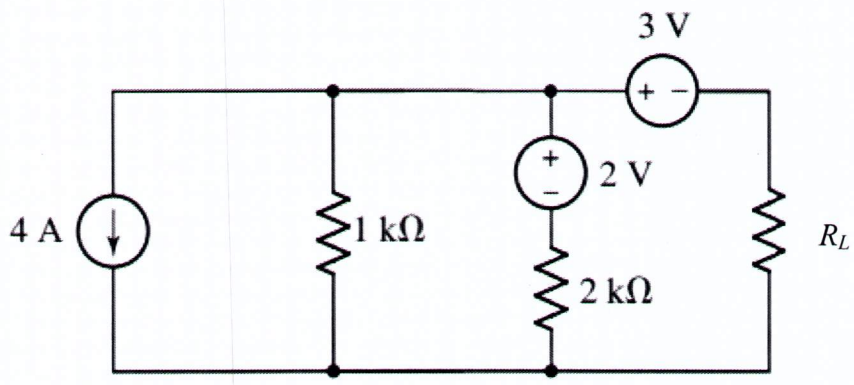
ATTEMPT ALL THE QUESTIONS

1. Determine the Thevenin and Norton equivalent of the given circuit as seen by terminals a and b. **(4)**

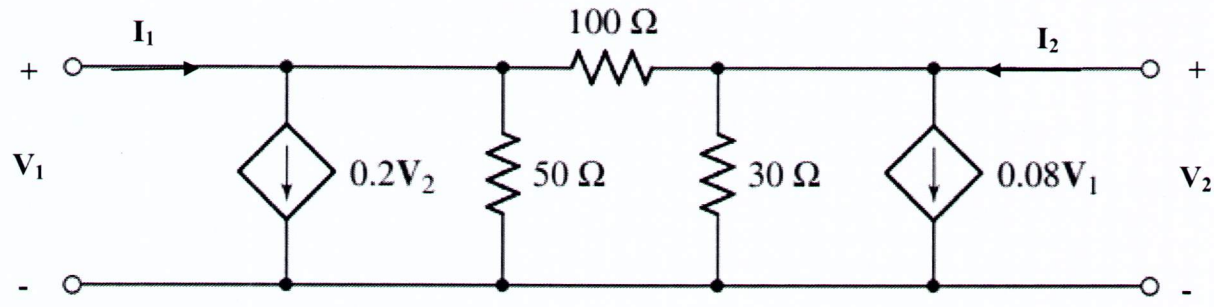


2. (a) Determine the Thevenin equivalent connected to resistor R_L.

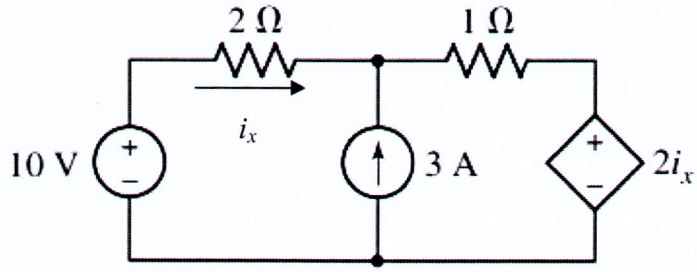
(b) Select a value for R_L such that maximum power will be delivered to it and calculate the maximum power also. **(4)**



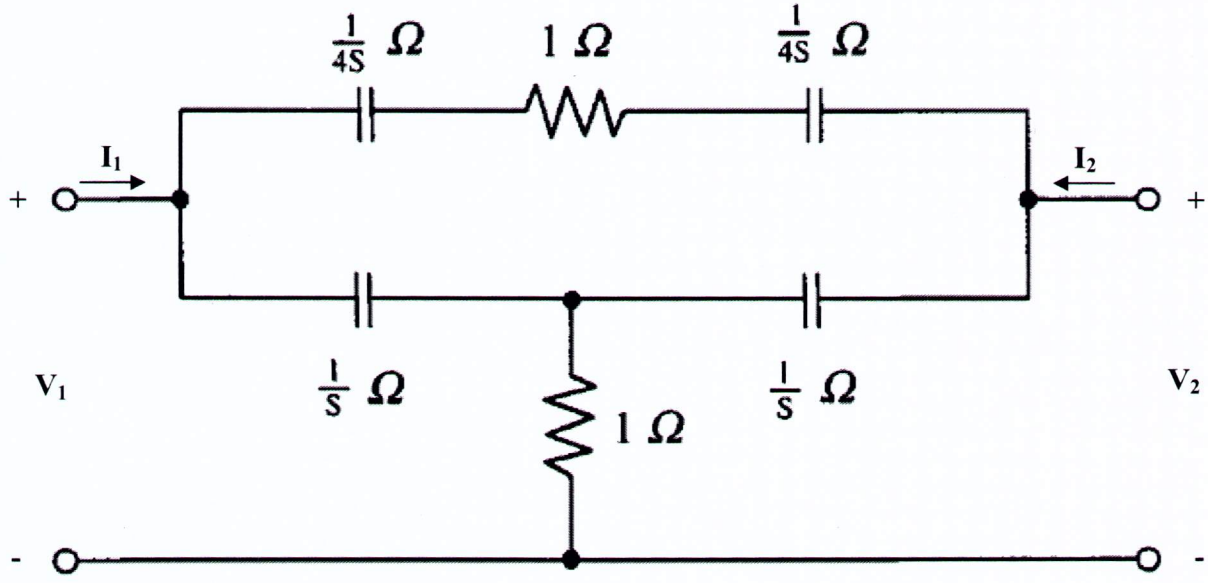
3. Obtain both the impedance and admittance parameters for the two-port network given below: **(4)**



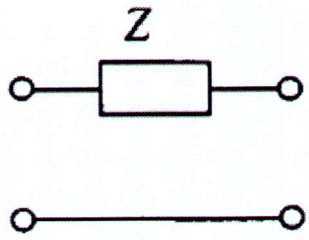
4. Using the superposition principle, determine the value of current i_x flowing through 2 Ω resistor. **(3)**



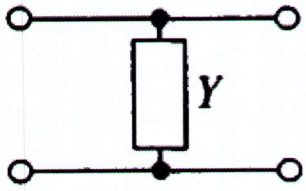
5. Determine the Y-parameters for the circuit shown below: **(3)**



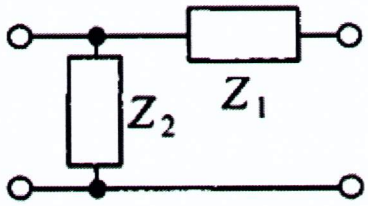
6. Find out the short circuit parameters for circuit (a), open circuit parameters for circuit (b) and hybrid parameters for circuit (c): **(3)**



(a)

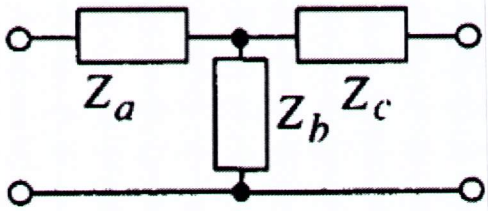


(b)

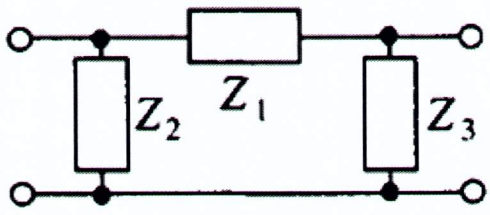


(c)

7. Find out the hybrid and transmission parameters for each of the following circuits: **(2)**



(a)



(b)

8. Find the voltage V_{ab} across the open circuit in the given circuit. **(2)**