

N.B: (1) Question No. 1 is compulsory.

(2) Attempt any three from the remaining questions.

(3) Figures to the right indicate full marks.

(4) Each question is of 20 Marks

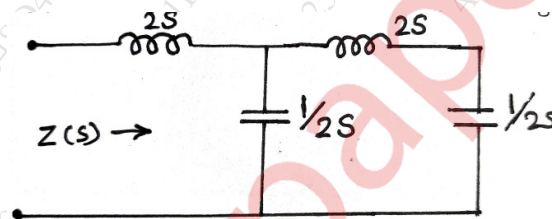
Q1. Attempt all questions

(a) Obtain Z parameters in term of Y parameters

Marks:05

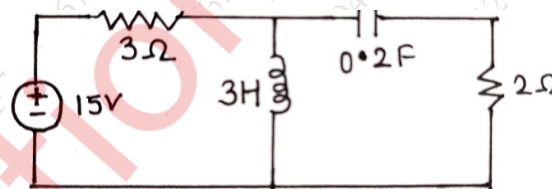
(b) Determine the driving point impedance of network shown in figure

Marks:05



(c) Draw the dual of the network shown in figure.

Marks:05

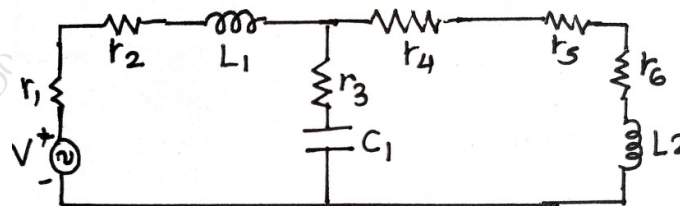


(d) State and explain Maximum power Transfer Theorem.

Marks:05

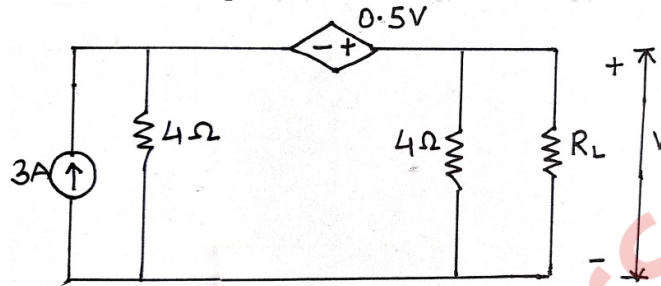
Q2. (a) For the given network draw the oriented graph and write f-cutset and f-tieset matrix

Marks:10



- (b) What will be the value of R_L to get the maximum power delivered to it. What is the value of this power.

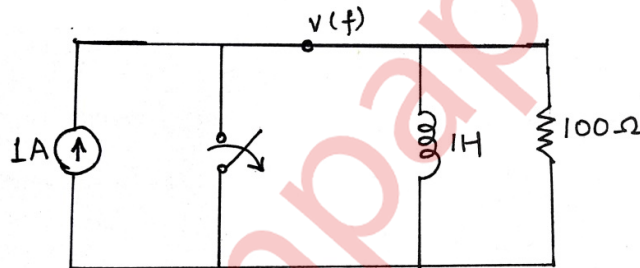
Marks:10



- 3(a) In the network shown in figure at $t=0$, the switch is opened.

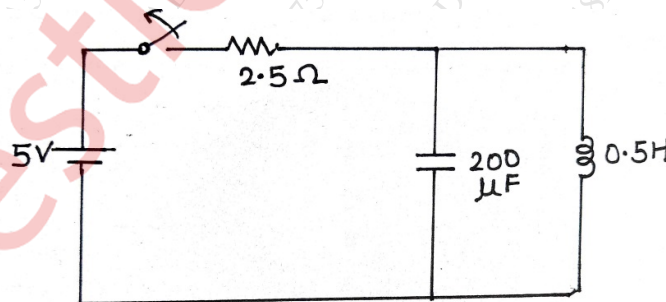
Marks:10

calculate v , dv/dt and d^2v/dt^2 at $t=0^+$



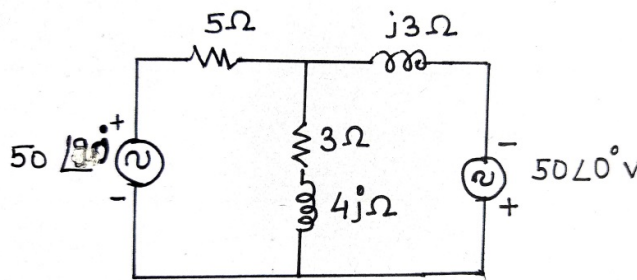
- (b) In the network shown in figure the switch is closed and steady state is attained. At $t=0$, switch is opened. Determine the current through the inductor.

Marks:10

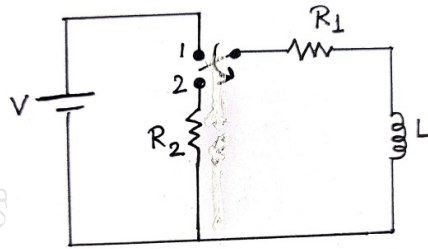


- Q4. (a) State and explain Superposition theorem. Find current through $3+4j$ ohm impedance.

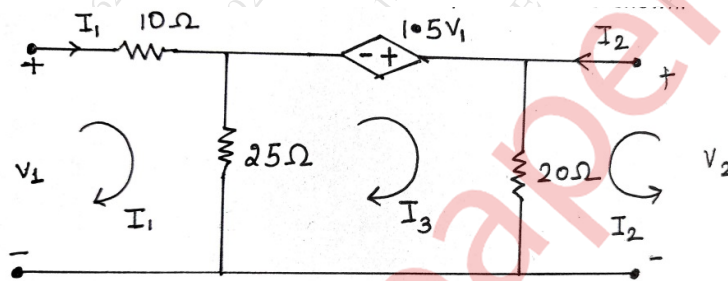
Marks:10



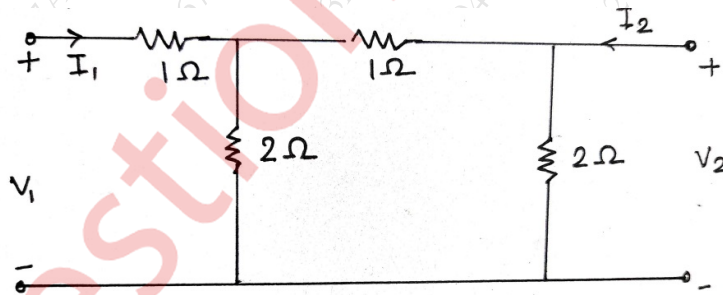
- (b) In the network shown in figure the switch is initially at position 1. On the steady state having reached, the switch is changed to position 2. Find current $i(t)$ Marks:10



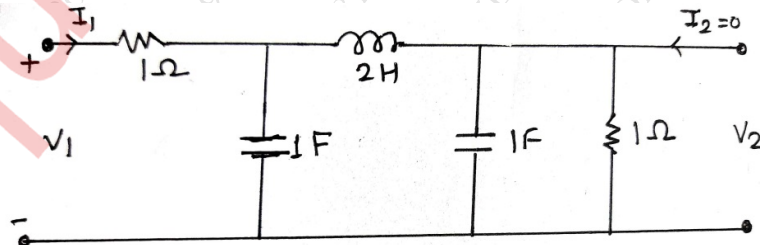
- Q5.(a) Find ABCD parameters of given two port networks shown. Marks:10



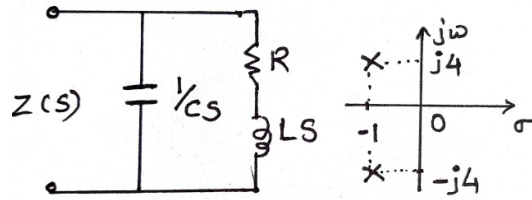
- (b) Find Z parameters for the network shown. Check whether condition of Reciprocity is verified? Marks:10



- Q6. (a) Determine voltage transfer function V_2/V_1 for given network. Marks:10



- (b) The pole-zero diagram of the driving point impedance function of the network is shown below. At dc the input resistance is resistive and equal to 2Ω . Determine value of R,L,C. Marks:10



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