



B.Tech III Semester Supplementary Examinations, December 2024

NETWORK ANALYSIS
(Electronics and Communication Engineering)

Maximum Marks: 70

Date:13.12.2024

Duration: 3 hours

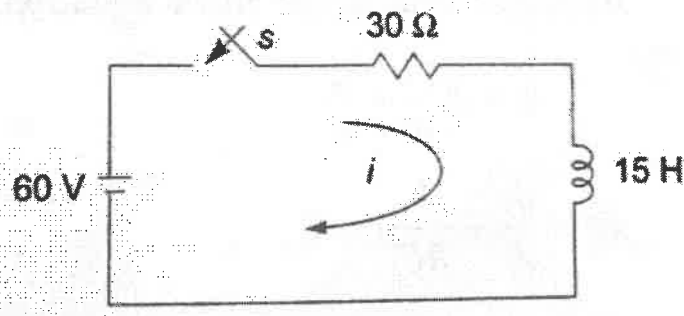
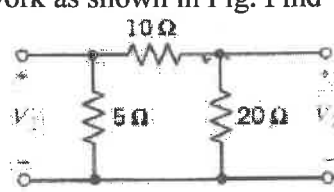
- Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20) Marks		CO	Bloom Tx
1	Define self-induced emf.	1	L1
2	Define state variable.	1	L1
3	Write about Initial conditions?	2	L1
4	Define link.	2	L1
5	Write about Forced response?	3	L1
6	Define transient condition in the inductor.	3	L1
7	Write the functions of filter?	4	L1
8	Define Quality Factor.	4	L1
9	Define propagation constant.	5	L1
10	Define band rejection filter.	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Define coefficient of coupling and derive the formula. [10M]	1	L2
OR			
12	Explain about procedure for formation of a fundamental Tie- set matrix. [10M]	1	L2
13	Derive the expression for voltage $v(t)$ in source free RC circuit. [10M]	2	L2
OR			
14	Derive the expression for current $i(t)$ in source free RL circuit. [10M]	2	L2
15	Find voltage across inductor and resister using Laplace transform. [10M]	3	L2

			
	OR		
16	Derive the expressions for current series RL circuit using Laplace transformation. [10M]	3	L2
17	Derive the condition for Reciprocity and symmetry in a two port Z-parameter representation. [10M]	4	L2
	OR		
18	In the given network as shown in Fig. Find Y – parameters. [10M]	4	L2
			
19	Explain the classifications of filters in detail. [10M]	5	L2
	OR		
20	Explain design of composite filter. [10M]	5	L2