



R22 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

Subject code: 4E2AG

B.Tech II Semester Regular/Supplementary Examinations, June 2024

NETWORK ANALYSIS

(EEE)

Maximum Marks: 60

Date:26.06.2024 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 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 (10X1M=10 Marks)		CO	Bloom Tx
1.	a What is the time constant of RL circuit?	1	L1
	b What is the initial condition of the element capacitor have no initial energy storage?	1	L2
	c Define is a step function.	1	L1
	d Define transient analysis.	1	L1
	e Write the Laplace transform of step function?	2	L2
	f List the application of Laplace transform in circuits?	2	L4
	g What is the symmetrical condition of ABCD parameters?	3	L4
	h What are the units of Y-parameters?	3	L1
	i Define filter.	3	L2
	j What is low pass filter?	3	L1

Part-B

Answer All the following questions. (5X10M=50Marks)			
2	Determine an expression for transient response of series RL circuit with DC excitation? [10M]	1	L3
OR			
3	A. Obtain the expression for transient response of series RC circuit with step excitation? [5M] B. A series RL circuit with $R=30\Omega$ & $L=15H$ has a constant voltage applied at $t=0$. Determine the current in the circuit, voltage across resistor and Voltage across Inductor? [5M]	1	L2 L3
4	Obtain an expression for transient response of parallel RL circuit with step input? [10M]	1	L2
OR			
5	Explain expression for transient response of parallel RC circuit with step input? [10M]	1	L2

6	Obtain an expression for transient response of series RLC circuit with step input using Laplace transform method? [10M]	2	L5
OR			
7	Derive an expression for transient response of series RL circuit using laplace transforms? [10M]	2	L3
8	A. Express open circuit parameters in terms of short circuit parameters. [5M] B. Explain about transmission parameters. [5M]	3 3	L2 L3
OR			
9	Determine the open circuit parameters of the network shown below. [10M]	3	L3
10	Explain classification of Filters. [10M]	3	L2
OR			
11	Derive the necessary expression for constant K high pass filter and explain in detail. [10M]	3	L2