R20

Regulation ~~R18~~ *Subject code:* **3P3DE**

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, July 2022

NETWORK ANALYSIS

(ECE)

Maximum Marks: 70 Date:29.07.2022 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.**
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)

1 Define mutual induced e.m.f.

2 Explain the following terms
(i) Tree (ii) Co- Tree

3 Define Transient response.

4 Define the term time constant.

5 Explain initial value theorem

6 Write the procedure for evaluating initial conditions

7 Define driving point function.

8 Define hybrid parameter.

9 What is the need of filter?

10 Write about the band rejection filter.

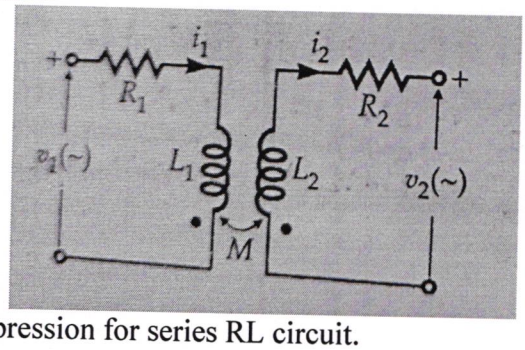
Part-B

Answer All the following questions. (10M X 5=50Marks)

11 a) Explain about procedure for formation of a fundamental Tie- set matrix. 5
b) Explain about formula for coefficient of coupling. 5

OR

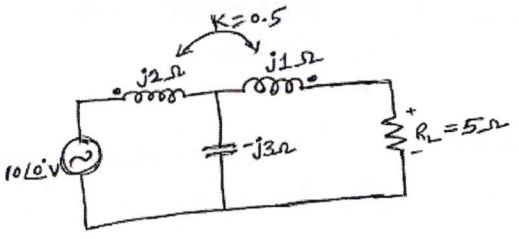
12 Fig represents a coupled coil circuit where L_1=20mH,L_2=50mH.If the coefficient of mutual induction is 0.8,Find the Value of mutual induction and write down the mesh equations in time domain. 10



13 Derive the current expression for series RL circuit. 10

OR

14 Find the voltage drop across 5 ohm resistor 10



15 Write short notes on the following terms Laplace transformation and inverse Laplace trans formation 10

OR

16 Write a short notes on convolution theorem, by using the convolution theorem, determine the inverse laplace transform of the following function $H(s)=1/s^2(s+1)$. 10

17 Determine z parameters in terms of y parameters. 10

OR

18 In the given network as shown in Fig. Find Z – parameters. 10

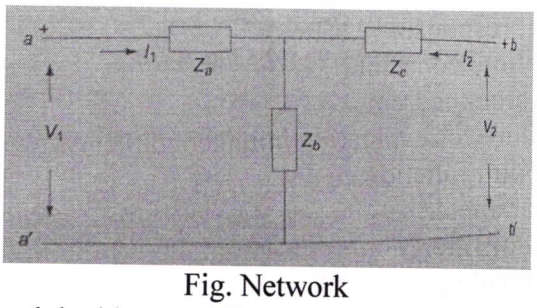


Fig. Network

19 Explain single tuned and double tuned filters. 10

OR

20 Explain design of m –derived low pass filter. 10