



Regulation R18

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

Subject code: 2P3BB

B.Tech III Semester Supplementary Examinations, July 2022
ELECTRICAL CIRCUIT ANALYSIS

(Electrical and Electronics Engineering)

Maximum Marks: 70

Date:21.07.2022 Duration: 3 Hours

Part-A

Answer all the following questions

(10x2M=20 Marks)

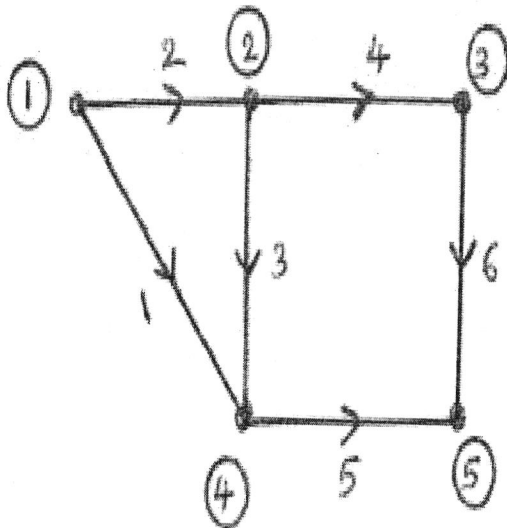
- 1 Write the properties of a Tree.
- 2 Define duality.
- 3 What is the time constant of RC circuit?
- 4 Define bandwidth and selectivity.
- 5 What is the Laplace transform of step response
- 6 What is the Laplace transform of Integration
- 7 Condition for symmetry of z-parameter
- 8 What is the other name for y- parameter
- 9 What are the applications of filter
- 10 Define high pass filter

Part-B

Answer any five of the following questions

(10MX 5=50Marks)

- 11 Write the complete and reduced incidence matrix for the given graph. [10]

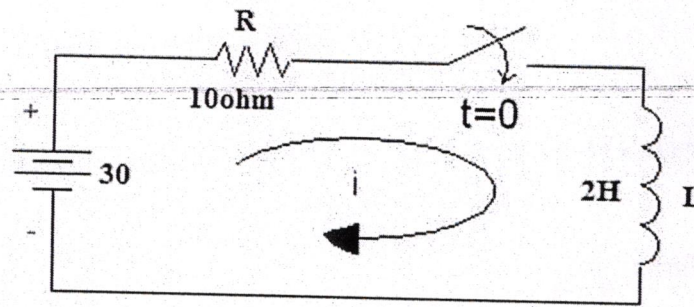


OR

- 12 Derive the expression for self and mutual inductance and also determine the coefficient of coupling. [10]
- 13 Derive the expression for $i(t)$, voltage across capacitor of a series RC Circuit when dc voltage applied to at $t=0$ by switch was closing. [10]

OR

- 14 Determine the current flowing through series RL circuit as shown fig. [10]



15 Derive the step response of a series RL Circuit. [10]

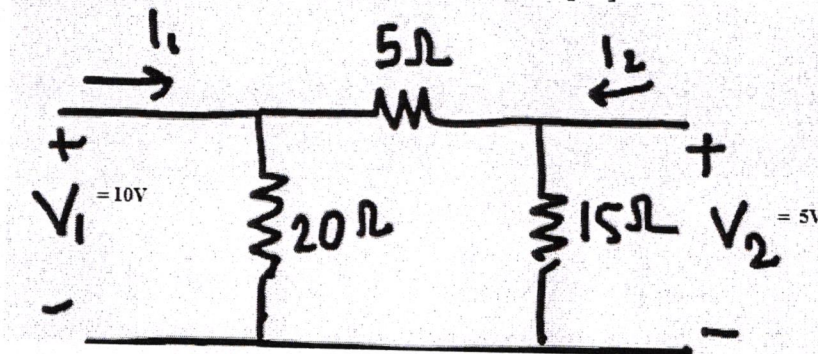
OR

16 Derive the expression for Resonance and Bandwidth for RLC Series circuit. [10]

17 Determine the short circuit parameter. [10]

OR

18 Determine the y- parameter for a net work. [10]



19 Derive the expression for constant k type high pass filter. [10]

OR

20 Derive the expression fore m-derive low pass filter. [10]