GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING FOR WOMEN
(Autonomous)
(Affiliated to Andhra University, Visakhapatnam)
II B.Tech. - I Semester Regular Examinations, Nov – 2025
Electrical Circuits - 2
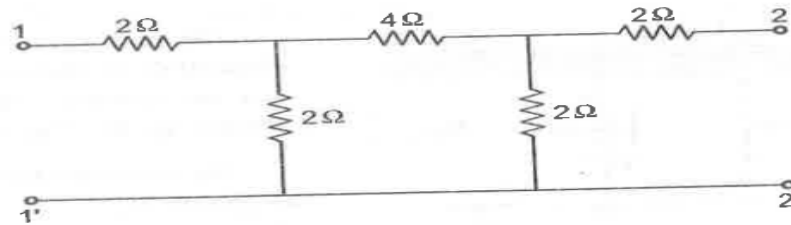(Common to EEE)
1. All questions carry equal marks
2. Must answer all parts of the question at one place

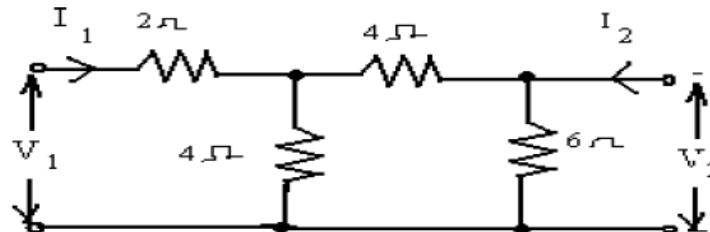Time: 3Hrs.　　　　　　　　　　　　　　　　　　　　　　　Max Marks: 70

UNIT-I

1. a. Draw the cascaded configuration of two port networks.
   b. Obtain z-parameters of the following two port network.

OR

2. a. The Z-parameters of a two port network are $Z_{11} = 20\Omega$, $Z_{22} = 30\Omega$, $Z_{12} =Z_{21}= 10\Omega$. Find Y and h-parameters of the network.
   b. Determine the ABCD parameters of the network shown in figure

UNIT-II

3. a. Explain the transient response of series R-L circuit applied to DC input voltage
   b. In the given network the switch is closed at t=0. With zero current in the inductor,
   Find $i, \frac{di}{dt}, \frac{d^2i}{dt^2}$ at t =0+
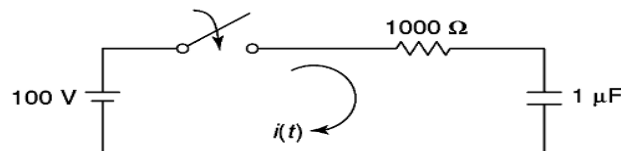
OR

4. a. Explain about Transient response of R-C (series) circuit using Laplace approach.
    b. Using Laplace Transform, Determine the current $i_L(t)$ for $t > 0$ for the circuit
   shown in below fig.
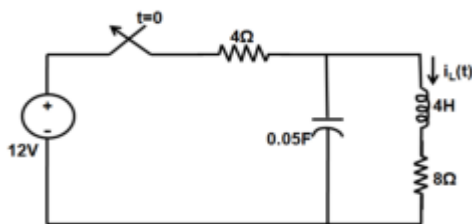
UNIT-III

5. a. Explain with diagram how power in three phase system can be found using two wattmeter's
    b. A balanced star connected load $(4 + J3)$ ohm per phase is connected to a balanced 3 phase 400V supply.
       Determine the line current, active power and power factor.

OR

6. a. Draw the phasor diagram to show voltage relation in a star connected three phase system.
    b. The two wattmeter method is used to measure power in three phase load. The wattmeter
       readings are 400W and -35W. Calculate i) active power ii) reactive power.
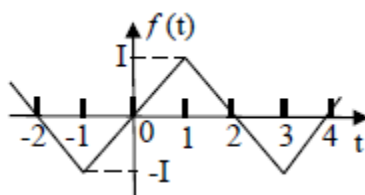
UNIT-IV

7. a. What are Fourier transforms? Discuss its properties.
    b. Find the Fourier series of the square wave shown below. Plot the amplitude & phase spectra.
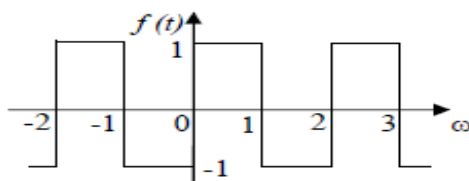
OR

8. a. Explain about i) Even function symmetry ii) Odd function symmetry iii) Half wave symmetry.
    b. Calculate the Fourier series for the function shown Figure below

UNIT-V

9. a. What are Filters? Explain Low pass, High pass, Band pass, Band elimination Prototype filters?
    b. Design a High Pass Filter having cut off frequency of 1 KHz and a load resistance of 600Ω

OR

10. a. Explain the design procedure of a constant-K high pass filter with neat circuit diagram.
    b. Draw a circuit of a band stop filter and express its working with neat reactance curves.