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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
II B.Tech I Semester Supplementary Examinations, April 2023
Network Analysis & Transmission Lines
(ECE)

Roll No										

Time: 3 hours   **Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE
Question from each SECTION and each Question carries 14 marks

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SECTION-I

1	Determine the steady state current for RC series network when connected to voltage source Vm sinωt.	**[14M]**

OR

2	Define the terms natural response and time constant? Derive the step response of a series RLC circuit?	**[14M]**

SECTION-II

3	Explain 'Z' and 'Y' parameters and also derive the relation between them.	**[14M]**

OR

4	Define ABCD parameters for typical four terminal networks. Derive the relationship between ABCD parameters and Y parameters of a two port network	**[14M]**

SECTION-III

5	Draw the locus diagrams for RL, RC series circuit by varying 'R'	**[14M]**

OR

6	A Series RLC circuit has R=3Ω ,L=3mH and C=15 µF. Calculate the Resonant Frequency, Bandwidth, Quality factor and Half power frequencies.	**[14M]**

SECTION-IV

7	A transmission line operating at 500 MHz has Z0= 80Ω, α=0.04 Np/m, β=1.5 rad/m. Find the line parameters R, L, G and C?	**[14M]**

OR

8	Explain the distortion in a transmission line in detail and also derive the conditions that characterize a distortion less transmission line.	**[14M]**

SECTION-V

9	Define and discuss input impedance of a loss less transmission line.	**[14M]**

OR

10	A loss less line of 300Ω impedance is terminated to load impedance of 100+j650Ω. The frequency of operation is 60MHz. Find the length and location of a single stub matching needed for impedance match	**[14M]**

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