JEPPIAAR
ENGINEERING COLLEGE

DEPARTMENT OF ECE

INNOVATIVE TEACHING

Subject code: EC3551

Subject title : TRANSMISSION LINES AND RF SYSTEMS

Academic year: 2023-24

Topics covered

Smith chart

- Solutions of problems using Smith chart

- Single and double stub matching using Smith chart.

- To determine reflection coefficient
- To determine standing wave ratio
- To determine minimum load impedance
- To determine maximum load impedance
- To determine Stub position and length
- To determine first voltage minimum and first voltage maximum.

Video for single stub matching
https://drive.google.com/file/d/1aI5p5VebCUXsYtkrpnZnKuDTyCE0KQk5/view?usp=sharing

Video for double stub matching

https://drive.google.com/drive/u/1/search?q=double

1. Determine SWR, Load admittance and distance between load and first voltage minima along the transmission line for a line with characteristic impedance of 300 ohm and terminated in a load of 175+j207 ohm

2. Find the sending end impedance of a line with negligible losses when characteristic impedance is 55 Ω and load impedance is (115+j75) Ω length of the line is 1.183 wavelength by using smith chart

3. A 75-ohm lossless transmission line is to be matched with a 100-j80 ohm load using single stub. Calculate the stub length and its distance from the load corresponding to the frequency of 30 MHZ using Smith chart.

4. Double stub problem- how to find the length and position of two stubs.