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Roll No. .....

4th Sem / Branch : Eltx, Power Eltx

Subject:- NETWORK FILTER & TRANSMISSION LINES

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 How many terminals a two port network has

a) 1 b) 2
c) 3 d) 4

Q.2 A two port is reciprocal or bilateral provided

a) Z11=Z22 b) Z11=Z12
c) Z12=Z21 d) Z21=Z22

Q.3 Characteristics impedance for asymmetrical network at both the ports is

a) Same b) Different
c) Defined d) Not defined

Q.4 In symmetrical T network what is the value of series arm impedance

a) Z1 b) Z1/2
c) Z2 d) Z2/2

Q.5 For a prototype LPF, the phase constant ß in the attenuation band is given by _____

a) π b) 0
c) ∞ d) $\pi/2$

Q.6 A band pass filter may be obtained using a high pass filter followed by

a) Low pass filter b) High pass filter
c) Band pass filter d) Band Reject filter

Q.7 For a prototype LPF, Zo in atttenuation band is

a) Capacitive b) Inductive
c) Resistive d) None of the above

Q.8 Input impedance of Short circuited loss line with length l /4 is

a) Infinity
b) Zero
c) Characteristics impedance
d) None of the above

Q.9 An active network has

a) an emf source b) a current source
c) Both d) None of the above

Q.10 If K=0, Then VSWR will be .....

a) 0 b) 1
c) 2 d) All of the above

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 A L-network is_____ network. (symmetrical /asymmetrical)

Q.12 A network having ..... pairs of terminal is called two port network. (two/four)

Q.13 Decible is unit of admittance. (True/False)

Q.14 An ideal filter should have.....attenuation in pass band.

Q.15 An Attenuator amplifies the signal.(True/False)

Q.16 Write full form of BPF

Q.17 What is the formula for cut off frequency of LPF?

Q.18 Define the term dielectric loss ?

Q.19 An equivalent circuit of Transmission line has capacitance in .....arm.(series/shunt)

Q.20 Write full fom of VSWR.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Drive an expression for characteristics impedance of 'T' network.

Q.22 What is asymmetrical network ? Explain ilterative impedance of an asymmetrical network.

Q.23 Differentiate between Linear and Non linear network.

Q.24 Explain concept and significance of Iterative impedance

Q.25 Design a symmetrical 'T' attenuator

Q.26 What are the uses of attenuator ?

Q.27 Draw and Drive the design equation of L-type attenuator

Q.28 Draw and explain the characteristics(phase shift vs frequency)of T filter

Q.29 Explain concept of band pass filter?

Q.30 What is difference between active and passive filter? Explain in detail

Q.31 What is a stub ? Explain the principle of impedance matching using stub.

Q.32 A lossless line is terminated in pure resistance of 600W if characteristic impedance is 400W.Find the value of SWR.

Q.33 Explain the concept of transmission line at high frequency

Q.34 Write a short note on crystal filter

Q.35 List different types of Transmission line.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Describe and explain different types of networks in detail with the help of diagrams

Q.37 For the asymmetrical PI network having series impedance 50Wand shunt arm impedance 150Wand 250W, fid the asymmetrical network properties

Q.38 Write a short note on any two-

a) Applications of Transmission Line
b) Need of m-derived filter
c) Chebyshev filter