Q.26 Explain the concept of Infinite line. CO-3

Q.27 Prove that for symmetrical T Network $Z_o^2 = Z_{oc} * Z_{sc}$ CO-1

Q.28 Define Attenuator. Explain its various types. CO-2

Q.29 Give five application of Transmission Line. CO-4

Q.30 Give the applications of Filters. CO-3

Q.31 Derive an expression for characteristic impedance of T network. CO-1

Q.32 What is distortion? Explain different types of Distortion? CO-3

Q.33 Explain Secondary Constant of Transmission Line. CO-3

Q.34 Derive the design equation of Symmetrical T network. CO-2

Q.35 List five advantages of Active Filter. CO-3

SECTION-D

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

Q.36 What is Network? Explain the concept of symmetrical and Asymmetrical Network and the parameters associated with them. CO-1

Q.37 Define Filter. Deduce the relationship between Characteristics Impedance and frequency for low Pass filter. Draw its curve also. CO-3

Q.38 Define Transmission Line. Explain its various types in elaborated manner. CO-4

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4th Sem / Branch : Eltx, Power Eltx

Subject:- Network Filters and Transmission Lines

Time : 3Hrs. M.M. : 100

SECTION-A

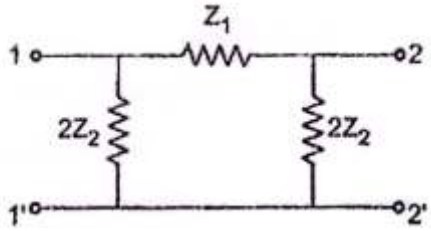
Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 How many terminals a two port network has CO-1

a) 1 b) 2

c) 3 d) 4

Q.2 Network shown below is _____ network. CO-1



a) Symmetrical, T Section

b) Asymmetrical T Section

c) Symmetrical, π Section

d) Asymmetrical, π Section

Q.3 Attenuation in dB=_____* attenuation in Neper CO-2

a) 5.626 b) 8.686

c) 3.172 d) 9.812

Q.4 Attenuation in any symmetrical attenuator is given by CO-2

a) $a=20\log\sqrt{I_1R_1/I_2.R_2}$ b) $a=20\log\sqrt{I_1/I_2}$

c) $a=20\log I_1/I_2$ d) $a=10\log I_1/I_2$

Q.5 A filter which allow to pass signal of all frequencies upto particular frequency and stop signal cut off frequency is called _____ CO-3

a) High Pass Filter b) Low Pass Filter

c) Band Pass Filter d) Band Stop Filter

Q.6 For a prototype LPF, characteristic impedance at f=0 is given by CO-3

a) $\sqrt{L/C}$ b) $1\sqrt{LC}$

c) $\sqrt{LC}$ d) $\sqrt{C/L}$

Q.7 An ideal filter should have _____ attenuation in the pass band. CO-3

a) Zero b) Infinite

c) R^2 d) Z_0

Q.8 In a lossless line, characteristic impedance is given by CO-4

a) $\sqrt{L/C}$ b) $\sqrt{R+jwL}$

c) L/C d) $\sqrt{R+(jwL)(G+jwC)}$

Q.9 S is given by CO-4

a) 1+1K1/1-1K1 b) 1-1K1/1+1K1

c) (1-1K1)(1+1K1) d) $(1+1K1)e^{(11-1K1)}$

Q.10 Primary constants of a line are CO-4

a) R,L,Z_0 and g b) R,L,G and C

c) Z_0, g, a and b d) G,C,b and a

SECTION-B

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

Q.11 A network with electrical characteristic : Iterative impedance, Image impedance, Iterative transfer constant, Image transfer constant is called _____ network. CO-1

Q.12 Define Characteristic Impedance. CO-1

Q.13 Define Insertion loss. CO-1

Q.14 Define Attenuation. CO-2

Q.15 What are characteristics of Attenuators? CO-2

Q.16 Define Cutoff frequency. CO-3

Q.17 Draw Prototype lowpass filter. CO-3

Q.18 Define transmission line. CO-4

Q.19 Draw Equivalent circuit of transmission 1line. CO-4

Q.20 Define Reflection coefficient. CO-4

SECTION-C

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

Q.21 Explain the difference between Asymmetrical and Symmetrical Network. CO-1

Q.22 Explain the uses of Attenuator. CO-2

Q.23 What are the limitations of Prototype Filter? CO-3

Q.24 Explain the difference between Active Filter and Passive Filter. CO-3

Q.25 Derive the relationship between Reflection coefficient and VSWR. CO-4