

No. of Printed Pages : 4
Roll No.

181035

3rd Sem / 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 Network is a combination of
a) Electric elements
b) Electronic elements
c) Electric / Electronic Elements
d) None of the above
- Q.2 A two port is reciprocal or bilateral provided
a) $Z_{11} = Z_{22}$ b) $Z_{11} = Z_{12}$
c) $Z_{12} = Z_{21}$ d) $Z_{21} = Z_{22}$
- Q.3 Attenuator is a _____ terminal network inserted between source and load.
a) 1 b) 2
c) 3 d) 4
- Q.4 What is full form of LPF?
a) Linear pass filter b) Low pass filter
c) Length pass filter d) None of the above
- Q.5 An ideal filter have _____ attenuation in the pass band.
a) zero b) one
c) infinity d) All of the above

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- Q.6 A band stop filter
a) Passes all frequencies above a particular frequency
b) Passes all frequencies below a particular frequency
c) Passes all frequencies between two specified frequencies
d) None of the above
- Q.7 Filters are _____ selective network.
a) Impedance
b) Frequency
c) Impedance matching
d) None of the above
- Q.8 In symmetrical PI network what is the values of shunt arm impedance?
a) Z_1 b) $2Z_1$
c) Z_2 d) $2Z_2$
- Q.9 To maintain same cut-off frequency, both the sections of a network must have characteristic impedance _____ Z_0
a) same as b) different from
c) greater than d) lesser than
- Q.10 Open wire transmission line have
a) two parallel conductor separated by dielectric medium
b) coaxial wire
c) optical fiber
d) All of the above

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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 terminals is called two port network. (two/four)
- Q.13 Define attenuator.
- Q.14 An ideal filter should have _____ attenuation in stop band.
- Q.15 An attenuator amplifies the signal. (True/False)
- Q.16 Write full form of BPF.
- Q.17 Define cutoff frequency of LPF?
- Q.18 Write full form of HVDC.
- Q.19 An equivalent circuit of Transmission line has capacitance in _____ arm. (series/shunt)
- Q.20 Write full form of VSWR.

SECTION-C

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

- Q.21 Explain two port network with block diagram.
- Q.22 Explain briefly insertion loss.
- Q.23 What is a symmetrical π (PI) network?
- Q.24 What is an image impedance?
- Q.25 Explain difference between L-network and Bridge T-network.
- Q.26 Explain general characteristics of attenuator.

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- Q.27 Draw and name different types of asymmetrical attenuator.
- Q.28 What is need of m-derived filter?
- Q.29 Write a note on Butterworth Filter in detail.
- Q.30 What is difference between active and passive filter? Explain in detail.
- Q.31 Write a short note on Infinite line.
- Q.32 Explain various methods of loading in transmission line.
- Q.33 Explain briefly the primary constant of a transmission line.
- Q.34 What is a stub? Why it is used?
- Q.35 What do you understand by π (PI) type 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 Explain how filters are classified on the basis of frequency characteristic. Also mention the applications of filters.
- Q.38 Write a short note on any two-
- a) Ladder attenuator
 - b) Active filter
 - c) Application of Transmission Line

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