

PAPER – 404

(EL-A) : ELECTRONIC COMMUNICATION - I

UNIT- I:

Transmission lines:

Distributed parameters, types of transmission lines, Voltage-and current relation on radio frequency, Transmission Line: voltage and current relation with distance referred from Sending end and receiving end-Propagation Constant- Exp. for the Phase and Attenuation Constant, Line distortion and attenuation—Condition for no distortion, condition for low distortion, achievement of the condition of low distortion, Lines of low loss, Line termination --, line termination by zero load (i.e. short circuited lines) and by infinite load (i.e. open circuited line). Standing wave ratio, Input impedance of dissipation less transmission line-Case-A, Case-B and Case-C.

Basic reference :

Hand Book of Electronics by Gupta and Kumar, Pragiti Prakashan Meerut.

UNIT- II:

Wave Guides :

Basic concepts of guided waves, Rectangular Wave guides, Transverse Magnetic waves (TM-Mode), Transverse electric waves (TE-Mode), $TE_{1,0}$ Mode, Attenuation Factor and Q of Wave guides, comparison of Wave guide and Coaxial cable. Circular Wave guides-TM Wave and TE Waves in Cylindrical Guides.

Basic reference :

Hand Book of Electronics by Gupta and Kumar, Pragiti Prakashan Meerut.

Other references :

- (1) Electronic Communication by D. Roddy and J. Coolen, Prentice-Hall of India Private Limited, New Delhi ,5th edition ,1995
- (2) Electronic Communication systems by G. Kennedy, Tata McGraw-Hill Publishing Company Limited, 1996.
- (3) Networks, Lines and Fields by J. D. Ryder, Prentice Hall of India Pvt. Ltd. New Delhi, 1991
- (4) Electronic and Radio engineering by M. L. Gupta, Dhanpat Rai & Sons, 1991
- (5) Advanced Electronic Communication system by Wayne Tosmasi, Prentice-Hall of India Private Limited, New Delhi.