Exam.Code:0929
Sub. Code: 33666

2124

B.E. (Electronics and Communication Engineering)
Fifth Semester
EC-503: Antennas and Wave Propagation

Time allowed: 3 Hours Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer the following:-

a) Define maximum usable frequency.

b) Explain the concept of frequency independent antenna.

c) Describe the broadside array.

d) Give the silent features of Yagi Antenna.

e) Define Aperture efficiency and Major Lobe. (5x2)

UNIT - I

II. a) Explain different types of field regions of an antenna?

b) An antenna has a radiation resistance of 73Ω and loss resistance of 7Ω. If the power gain is 20, calculate the directivity and efficiency of the antenna. (6,4)

III. a) Describe two-element antenna array with current equal in magnitude and phase?

b) Discuss various forms of radio wave propagation. (4,6)

IV. Write a short note on following:-

a) Rhombic Antenna

b) Log periodic Antenna (2x5)

UNIT - II

V. Explain the formation and characteristics of ionosphere layers. (10)

VI. Derive the relationship between directivity, Radiation resistance and Effective length. (10)

VII. Derive the expression for N element linear antenna array. (10)

x-x-x