Total No. of Questions :10] *[Total No. of Printed Pages :2*

Roll No.....

EC-702

B.E. VII Semester

Examination, December 2012

Antenna and Wave Propagation

Time : Three Hours

Maximum Marks : 100 ***Minimum Pass Marks :35***

Note : 1. Attempt one question from each Unit.
2. All questions carry equal marks.

UNIT-I

1) Derive an expression for the power radiated by the current element and calculate the radiation resistance. (20)

OR

2) a) Derive an expression for the gain of half wave dipole. (10)

b) What is meant by radiation pattern? (10)

UNIT-II

3) a) Differentiate between broadside and end-fire array.(10)

b) Derive the expression for the far field pattern of an array of 2-isotropic point sources. (10)

i) Equal amplitude and phase

ii) Equal amplitude and opposite phase.

OR

4) Explain the principle of pattern multiplication. (20)

UNIT - III

5) Explain the construction, operation and design for a rhombic antenna. (20)

OR

6) What is the purpose of using more directors in Yagi-Uda Antenna? Explain the construction and operation of Yagi-Uda antenna. (20)

UNIT - IV

7) Explain how Fourier transform can be applied to synthesis of linear array? (20)

OR

8) Write short notes on - (20)

a) Triangular, cosine and cosine - squared amplitude distributions.

b) Rectangular and circular aperture.

UNIT - V

9) Define tropospheric wave. (20)

Explain ground wave propagation in detail

OR

10) Explain the effect of earth's magnetic field on radio wave propagation. (20)

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