R09

Time: 3 hours   Max. Marks: 75

Answer any five questions
All questions carry equal marks

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1.a) Explain in detail Radiation Intensity and Effective Height.
  b) Discuss in brief about Retarted Potentials.
  c) Write about basic Maxwell's equations.   [6+5+4]

2.a) Derive the radiated field equation of the Electric dipole.
  b) Explain about Far fields and thin linear centre-fed Antennas of different lengths.   [8+7]

3.a) Derive the array factor of a two element array with equal amplitude and equal phase.
  b) Write in brief about Binomial array.   [8+7]

4.a) Explain about the Helical antenna in normal and axial modes.
  b) Design Yagi –Uda Antenna of 6-elements to provide gain of 12dBi of operating
       frequency 200MHZ.   [8+7]

5.a) Explain the operating principle of Parabolic Reflector and its types.
  b) Write down the advantages and disadvantages of the Microstrip antennas.   [8+7]

6.a) Explain about Lens antenna and derive the equation for shape of the Lens.
  b) Explain briefly about measurement of directivity.   [8+7]

7.a) Write about Ground wave Propagation and how the reflection takes place on the surface
       of earth.
  b) Explain briefly about the Radio-Horizon and Line of Sight propagation.   [8+7]

8.   Explain in detail about:
      a) Skip Distance
      b) Critical frequency
      c) D-layer in Ionosphere.   [5+5+5]

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