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Total No. of Pages : 02

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M.Tech. (ECE) (2018 Batch) (Sem.–2)

ANTENNAS AND RADIATING SYSTEMS

Subject Code : MTEC-103-18

M.Code : 76259

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT question.**
2. **Each question carry TWELVE marks.**

1. a) Describe the radiation mechanism of a single wire antenna.

   b) Explain in detail the current distribution on a thin wire antenna.

2. What is an antenna array? What are the reasons using antenna arrays? Explain in detail the behaviour of Broad-side and End-Fire antenna arrays.

3. a) Discuss in detail the ground effects in linear wire antennas.

   b) Write a brief note on Micro strip antennas.

4. a) Explain Friis transmission equation in detail.

   b) Derive the expression for the directivity of an n element ordinary end fire linear array.

5. a) Describe the significance of uniform amplitude and spacing in linear arrays.

   b) What is the significance of loop antennas? Discuss small circular loop antenna in detail.

6. a) Describe the importance of parabolic reflector antenna in detail.

   b) Explain feeding mechanisms and method of analysis for for micro strip antennas.

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7. a) Why antenna array is required? Also discuss the concept of super directivity.

   b) Describe in detail the design considerations for linear arrays antennas.

8. Write short notes :

   a) Antenna temperature

   b) Radiation power density

   c) Polarization

   d) Radiation power density

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NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC case against the Student.

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