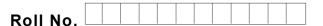
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B.Tech.(Electronics & Electrical Engg.) (2012 to 2017) (Sem.-7) B.Tech.(Electrical & Electronics Engg.) (2013 & Onwards) ANTENNA & WAVE PROPAGATION Subject Code : BTEEE-801 M.Code : 71962

Time : 3 Hrs.

Max. Marks : 60

# **INSTRUCTIONS TO CANDIDATES :**

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

# **SECTION-A**

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#### 1. Answer briefly :

- a) Define effective height.
- b) State field principle equivalence.
- c) What do you understand by the term omnidirectional antenna?
- d) What is the structure of ionosphere?
- e) Define antenna efficiency.
- f) What is the principle of pattern multiplication?
- g) What is dipole antenna?
- h) Write the expression for current distribution of half wave dipole.
- i) Define skip distance.
- j) Define virtual height.



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## **SECTION-B**

- 2. What is an antenna array? Explain in detail the behaviour of broadside antenna array.
- 3. Discuss the principle, construction and working of Horn antenna.
- 4. What is polarization? Discuss the condition of different type of polarization.
- 5. Discuss the reflection and refraction of the wave by ionosphere.
- 6. Discuss the rectangular and circular aperture antenna.

## **SECTION-C**

- 7. Explain the principle of communication by troposcatter.
- 8. Derive the relation between MUF and skip distance.
- 9. Derive the expression for the radiation resistance of half wave dipole.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.