

G 1065

(Pages : 2)

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Sixth Semester

Branch : Electronics and Communication Engineering

RADIATION AND PROPAGATION (L)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

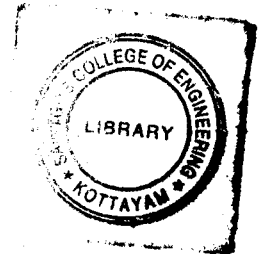
Time : Three Hours

Maximum : 100 Marks

Part A

*Answer all questions.
Each question carries 4 marks.*

1. What is an isotropic radiator ? Compute its directivity.
2. Define radiation resistance. What is its significance ?
3. What are the features of pattern multiplication principle ? Explain.
4. What is the principle of binomial array ? Enumerate its features.
5. Differentiate V and Rhombic antenna.
6. What are the choice of substrate materials for Micorstrip antenna ?
7. Define Fading. Mention the types of fading.
8. Define 1. Skip Zone 2. Multihop propagation 3. Ray path.
9. What is Anchoic Chamber ? Explain the importance of it.
10. Why polar plot is preferred in antenna pattern measurement ? Explain.



(10 × 4 = 40 marks)

Part B

*Answer all questions.
Each question carries 12 marks.*

11. (a) Define and explain the parameters of an antenna.
(b) Derive the radiation resistance of a Oscillating Electric Dipole.
- Or*
12. (a) State and prove Lorentz reciprocity theorem.
(b) Derive FRIIS Transmission formula. Explain the applications of it.
 13. (a) Explain the significance of an antenna array. Derive Antenna Array factor.
(b) Discuss the pattern multiplication principle in detail with neat diagrams.

Or

Turn over

14. (a) Explain the development of folded dipole antenna from a 2 wire short circuited transmission line, with neat diagrams.
(b) Explain the principle of operation of Offset feed parabolic reflector with a neat diagram.
15. Explain the construction of 2 element Yagi Uda antenna, with a diagram. Explain the applications and limitations of it. Derive Gain expression for 2 element Yagi Uda antenna.

Or

16. Explain the geometry and principle of operation of a rectangular microstrip antenna with a diagram. Explain the design details of an microstrip antenna.
17. (a) Discuss the factors involved in the propagation of radio waves.
(b) Explain the 2 ray model of Space wave propagation with a diagram.

Or

18. (a) Explain the characteristics of sky waves. Also derive their characteristic equations.
(b) Write a technical note on "Duct Propagation".
19. Draw a neat block diagram for antenna Gain and radiation pattern measurement. Explain the procedure in detail.

Or

20. (a) Explain the SWR method of measuring antenna input impedance, with a neat block diagram.
(b) Write short notes on "Antenna Indoor measurements".

(5 × 12 = 60 marks)

