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Question Paper Code: 36403

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Sixth Semester

Electronics and Communication Engineering

01UEC603 - ANTENNA AND WAVE PROPAGATION

(Regulation 2013)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. If the radiation resistance of an antenna is 65Ω and loss resistance is 10Ω find its efficiency.
2. Define beam solid angle.
3. State the principle of pattern multiplication.
4. What is a short dipole?
5. Define duality principle.
6. Point out the merits and demerits of lens antenna.
7. What are the drawbacks of antenna measurements?
8. Mention the types of feeding structures used for microstrip patch antennas.
9. Define skip distance.
10. What is gyro frequency?
11. Define half power beam width.
12. Define beam solid angle.
13. What is need of antenna array?
14. What is a short dipole?

15. Define duality principle.

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. What are Hertzian dipoles? Derive the electric and magnetic field of Hertzian dipoles. (10)
17. Draw radiation pattern for a half Wavelength dipole and explain in detail. (10)
18. Discuss about the type of Horn antenna and find the directivity and power gain. (10)
19. Describe the construction and basic principle of operation of a helical antenna under (i) normal mode of operation and (ii) Axial mode of operation. Write its application. (10)
20. Discuss on the following
(i) Skip Distance (10)