Reg. No. :

Question Paper Code: 46403

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

Sixth Semester

Electronics and Communication Engineering

14UEC603 - ANTENNA AND WAVE PROPAGATION

(Regulation 2014)

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 65 Ω and loss resistance is 10 Ω 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. Write the principle of pattern multiplication.

12. Differentiate broadside array and end fire array.

13. Define a Hertzian dipole.

14. Mention the relation between the length 'l' and spacing 'S' of adjacent elements of log periodic dipole array.

15. What are the factors that affect the propagation of radio waves?

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Illustrate reciprocity principle with regards to antenna in detail with neat sketch

(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 the factors influencing the propagation of radio waves. Compare and contrast them. (10)

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