

Roll No. \_\_\_\_\_

**3548**

**B. Tech. 7th Semester (ECE)  
Examination – February, 2022**

**ANTENNA AND WAVE PROPAGATION**

Paper : PCC-ECE-402-G

Time : Three Hours ]

[ Maximum Marks : 75

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :** Attempt *five* questions in all, selecting *one* question from each Unit. Question Number **1** is compulsory. All questions carry equal marks.

**1.** Write short notes on the following :

15

(a) Radiation pattern

(b) Huygen's principle

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P. T. O.

(c) Yagi-Uda Antennas

(d) Smart Antennas

**UNIT - I**

2. (a) Explain in detail Directivity and Gain. 8

(b) Describe Polarization and Input Impedance in detail. 7

3. State and prove Reciprocity Theorem. 15

**UNIT - II**

4. Describe Cassegrain Antenna in detail. 15

5. (a) Explain Aperture Antenna in detail. 8

(b) Describe the working of the Reflector. 7

**UNIT - III**

6. Describe the working of Frequency Independent Antennas in detail. 15

3548- (P-3)(Q-9)(22) (2)

7. (a) Explain the working of Yagi-Uda Antennas in detail. 10

(b) Explain briefly Broadcast Antenna. 5

**UNIT - IV**

8. Describe Antenna Arrays in detail. 15

9. (a) Explain synthesis of Antenna array using Schelkunoff. 10

(b) Describe analysis of uniformly spaced array. 5

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