

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

- (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

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
-