Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :14EC2020** |  | **Duration :** | **3hrs** |
| **Sub. Name :ANTENNA THEORY AND WAVE PROBAGATION** | | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Derive the Relation between gain and effective aperture | CO1 | 14 |
| b. | Exlain the following   1. Radiation pattern 2. Radiated Power Density 3. Radiation intensity | CO1 | 6 |
| (OR) | | | | |
| 2. |  | State Reciprocity Principle and verify it in transmitting and receiving antennas | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | Derive an expression for direction of pattern maxima and minima for broad side array. | CO2 | 15 |
|  | b. | Describe broad side array | CO2 | 5 |
| (OR) | | | | |
| 4. | a. | Derive an expression for direction of pattern maxima and minima for endfire array. | CO2 | 15 |
|  | b. | Describe endfire array | CO2 | 5 |
|  |  |  |  |  |
| 5. | a. | Explain the radiation from traveling Wave Antenna | CO2 | 8 |
|  | b. | Derive the Voltage and Current Relations in YagiUda antenna | CO2 | 12 |
| (OR) | | | | |
| 6. | a. | Explain the regions of LPDA with neat sketch | CO2 | 15 |
|  | b. | Describe the general characteristics and uses of LPDA | CO2 | 5 |
|  |  |  |  |  |
| 7. | a. | State Babinet and Huygens’s Principle. | CO3 | 5 |
|  | b. | Deduce the relation between slot and dipole antenna. | CO3 | 15 |
| (OR) | | | | |
| 8. | a. | Describe the geometry of parabolic reflectors. | CO3 | 10 |
|  | b. | Elaborate the feed systems of reflector antennas | CO3 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain the different layers of Structure of ionosphere . | CO3 | 20 |