

**Enroll No****T.Y. B.Tech.-Electronics & Telecommunication Engineering****Course Code: ECMD301****Course Name: Advanced Communication Systems**Day & Date: *Monday 22/09/2025*Time: *3:45 To 4:45*

Max Marks- 25

- Instructions:**
- 1) All questions are compulsory.
  - 2) Figures in rounded ( ) brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.
  - 3) CO is the index number of the Course Outcome statement.
  - 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.
  - 5) Assume suitable data if necessary.
  - 6) Use of non-programmable calculators is allowed

**Attempt the Following**

Marks	BT Level	COs
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|-------|--|---|---|-----|
| Q.1 A | Illustrate a microstrip antenna, its components and analyze its design considerations. (Components-4 Marks, Design considerations-3 Marks) | 7 | 4 | CO2 |
|-------|--|---|---|-----|

**OR**

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|--|---|---|---|-----|
|  | Illustrate the aperture antennas, their types, outline their design process, and identify their key performance parameters. (Design- 2 Marks, Parameter-2 Marks, Types-3 Marks) | 7 | 4 | CO2 |
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| B     | Explain the antenna arrays, their types, and summarize their benefits. (Antenna Explanation-2 Marks, Benefits-2 Marks, Types-2 Marks) | 6 | 2 | CO2 |
| Q.2 A | Interpret the key 5G requirements and analyze their impacts on communication systems. (Each- 1 Mark)                                  | 6 | 4 | CO3 |
| B     | Describe the key global regulations for 5G deployment and discuss their implications on worldwide adoption. (Each- 1 Mark)            | 6 | 2 | CO3 |

