

M.Sc. Semester-III (CBCS) Examination
ELECTRONICS
(Antenna and Mobile Communications)
Paper—3ELE-1

Time : Three Hours]

[Maximum Marks : 80

EITHER

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| 1. | (a) State and prove reciprocity theorem. | 4 |
| | (b) Define : | |
| | (i) Current element | |
| | (ii) Polarization. | 6 |
| | (c) Explain Antenna gain in detail. | 6 |

OR

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| (p) | Define the terms : | |
| | (i) Antenna aperture | |
| | (ii) Radiation resistance. | 6 |
| (q) | Explain directivity of antenna. | 6 |
| (r) | Write applications of antenna. | 4 |

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| 2. | (a) Draw and explain Yagi-Uda array. | 6 |
| | (b) Explain Rhombic antenna in detail. | 6 |
| | (c) Explain use of antenna in Mobile Communication. | 4 |

OR

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| (p) | Draw and explain traveling wave antenna. | 6 |
| (q) | Explain folded dipole array. | 6 |
| (r) | Explain lens antenna in detail. | 4 |

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| 3. | (a) State and explain : | |
| | (i) Co-channel interference | |
| | (ii) The cellular concept. | 8 |
| | (b) Explain frequency reuse in mobile communication. | 8 |

OR

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| (p) | Explain various techniques of cell splitting. | 8 |
| (q) | Explain the terms : | |
| | (i) Hand off strategy | |
| | (ii) Channel assignment. | 8 |

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| 4. | (a) What is propagation mechanism ? Explain in detail. | 8 |
| | (b) Explain BPSK modulation techniques with their spectra and bandwidth. | 8 |

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| (p) | Describe the propagation losses in brief. | 8 |
| (q) | Explain space polarization and channel coding. | 8 |

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| 5. | (a) Explain the term CDMA system in detail. | 8 |
| | (b) Explain application of mobile handset as modem. | 8 |

OR

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| (p) | Draw and explain GSM in detail. | 8 |
| (q) | Explain data storage device and SMS in detail. | 8 |

