

AQ - 1007

Third Semester M. Sc. - II Examination
(CBCS)

ELECTRONICS

3 ELE 1

(Antenna and Mob. Communication)

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

1. (a) Explain :
- (i) Directivity.
 - (ii) Radiation Resistance. 8
- (b) What is antenna aperture ? Explain in detail. 4
- (c) State and prove reciprocity theorem. 4

OR

- (p) Define and explain the following parameters of antenna :—
- (i) Input Impedance.
 - (ii) Current elements.
 - (iii) Effective length. 8
- (q) Derive the relation between directivity and beam solid angle. 8

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2. (a) Explain linear antenna array with suitable example. 8
- (b) Describe the end fire array and its radiation pattern. Also explain how the pattern can be made unidirectional. 8

OR

- (p) With sketch, describe the following antennas:
- (i) Yagi Uda. 8
- (ii) Helical antenna. 8
- (q) Explain how antenna is used for mobile communication with suitable sketch. 8
3. (a) State and explain co-channel interference ratio. 8
- (b) Explain the need of frequency reuse in cellular mobile systems. 8

OR

- (p) What is meant by Hand-off strategy ? Explain the two types of Hand-off. 8
- (q) What is meant by cell splitting ? Discuss the various techniques of cell splitting. 8

4. (a) What is channel coding ? Explain various types of channel coding. 8
- (b) What is need of modulation ? Explain the following schemes in detail :—
- (i) QPSK (ii) QAM 8

OR

- (p) Describe causes of propagation losses in brief. 8
- (q) Discuss time and frequency diversity technique. 8
5. (a) Draw and explain the architecture of GSM. 8
- (b) What is difference between GSM and CDMA techniques ? 8

OR

- (p) Explain the following terms :—
- (i) Multimedia Device. 8
- (ii) Data Storage Device. 8
- (q) Explain the suitable block diagram of digital cellular system. 8

