

Code: EC7T3

**IV B.Tech - I Semester – Regular/Supplementary Examinations
October - 2018**

**CELLULAR AND MOBILE COMMUNICATIONS
(ELECTRONICS & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) What is co-channel interference?
- b) Explain about shaped cells in mobile communication.
- c) What is path difference?
- d) Define multipath fading.
- e) Explain channeling.
- f) Define space diversity.
- g) Draw and explain cell splitting
- h) Explain sectorization in channel management.
- i) Explain GSM call process.
- j) List out few features of GSM service.
- k) Explain the role of antenna in mobile communication.

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Design a cellular radio system with 200 MHz of bandwidth, and plan a network of 7 channel reuse capacity. 8 M
- b) Explain the problems due to co channel interference in cellular environment. 8 M
3. a) Explain point to point model in mobile communications. 8 M
- b) Derive the general formula for mobile propagation and explain the laws of propagation. 8 M
4. a) What is synthesis and explain sum and different patterns. 8 M
- b) Explain the construction of cellular base station antenna. 8 M
5. a) What is a dropped call and explain the process to find out a dropped call? 8 M

b) Explain the use of microcells in a mobile environment.

8 M

6. a) Describe Signal Processing in GSM System.

8 M

b) Draw and explain GSM frame structure.

8 M