PVP 14

Code: EC7T3

IV B.Tech - I Semester – Regular/Supplementary Examinations
October - 2019

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) List the components of a cellular telecommunication system.
b) What is the concept of frequency reuse?
c) Define multipath fading.
d) What is the difference between direct and reflected paths?
e) What is the purpose of diversity receiver?
f) What is the advantage of using high gain antennas?
g) What is handoff mechanism in cellular mobile communication?
h) What is the advantage of sectoring?
i) What is the concept of forced handoff?
j) List the subsystems of GSM.
k) What are the features of GSM System?

PART – B

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

3 x 16 = 48 M

2. a) What are the limitations of conventional mobile telephone system and explain the elements of cellular radio system. 10 M

b) Specify the performance criteria of a cellular system. 6 M

3. a) Derive the general formula for mobile propagation over water and flat open area. 8 M

b) Explain the effect of human made structures on cell coverage in a cellular mobile system. 8 M

4. a) Explain different types of non cochannel interference. 8 M

b) Describe the different mobile antennas. 8 M

5. a) Distinguish the channel sharing and channel borrowing concepts. 8 M

b) Write down the differences between forced handoff and intersystem handoff. 8 M

6. a) Explain the GSM radio subsystem. 8 M

b) Write short notes on: 8M

i) Multiple access scheme

ii) GSM Channels.