

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2017

**WIRELESS COMMUNICATION**

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

\*\*\*\*\*

- 1 Answer the following: (10 X 02 = 20 Marks)
- What is the significance of frequency reuse?
  - Define grade of service.
  - What is the difference between large scale and small scale fading?
  - Define level crossing rate.
  - What is rake receiver?
  - List out different types of equalizers.
  - Explain TDMA.
  - What parameters influence the capacity of the cellular system?
  - What are the applications of multicarrier systems?
  - Define inter symbol interference.

**PART – B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

- 2 What are the different techniques to improve coverage and capacity in a cellular system?

**OR**

- 3 If 20 MHz of total spectrum is allocated for a duplex wireless FDD cellular telephone system and each simplex channel has 25 kHz RF bandwidth, find: (i) The number of duplex channels. (ii) The total number of channels per cell site, if N = 4 cell reuse factor is use.

**UNIT – II**

- 4 Explain different types of outdoor propagation models?

**OR**

- 5 What are the factors affecting small scale fading?

**UNIT – III**

- 6 What are the different nonlinear equalizers and explain in detail with neat diagrams?

**OR**

- 7 Explain different types space diversity methods in detail.

**UNIT – IV**

- 8 Explain in detail signaling and voice application of CDMA system.

**OR**

- 9 What are the differences between wireless and fixed telephone networks?

**UNIT – V**

- 10 Explain the matrix representation of OFDM with example.

**OR**

- 11 With neat sketch, explain data transmission using multicarrier.

\*\*\*\*\*