Q.P. Code: **19EC4011**

R19

Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
M.Tech I Year I Semester Regular Examinations Jan 2020
WIRELESS COMMUNICATIONS
(Embedded Systems)

Time: 3 hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1   Discuss about the following types of 2G and 2.5G mobile communications in detail.
   a GSM.   **6M**
   b TDMA.   **6M**

OR

2   **a** Explain the terms i) Simplex ii) Half duplex iii) Full Duplex.   **6M**
   b Give the evolution of 2G Cellular standards.   **6M**

UNIT-II

3   **a** Give the basic classification of Small Scale fading.   **6M**
   b Explain the types of small scale fading based on multipath time delay spread.   **6M**

OR

4   **a** Describe the statistical models of radio propagation.   **6M**
   b Design the simulation methods of the statistical models of radio propagation.   **6M**

UNIT-III

5   Derive the expression for Maximal Ratio Combining Improvement.   **12M**

OR

6   **a** Compare FDMA and TDMA Techniques.   **6M**
   b Explain the terms i) Handover Process ii) Co-channel Interference   **6M**

UNIT-IV

7   What is RAKE Receiver? Explain it with the help of neat diagram in detail.   **12M**

OR

8   What is Pseudo Random (PN) sequence and explain how it is used in Wireless   **12M**
Communication.

UNIT-V

9   **a** Explain about the following communication standards.   **6M**
    i) UMTS   ii) GSM
   b Define Air interface and give its specifications.   **6M**

OR

10   **a** Explain the concept of Capacity of flat and frequency selective fading channels.   **6M**
   b Write short notes on TD-SCDMA.   **6M**

*** END ***