7E7083

Roll No. _____ Total No of Pages: 3

7E7083

B. Tech. VII Sem. (Main / Back) Exam., Nov. – Dec. - 2018
Electronics & Communication Engineering
7EC4A Wireless Communication

Time: 3 Hours

Maximum Marks: 80
Min. Passing Marks: 26

Instructions to Candidates:

Attempt any ***five questions,*** *selecting* ***one question*** *from* ***each unit.*** *All questions carry* ***equal*** *marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.*

Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. NIL

2. NIL

UNIT- I

Q.1 (a) Explain the DSSS with binary phase shift keying and compare its performance with FHSS. [8]

(b) What do you mean by Code division multiplexing? [8]

OR

Q.1 Write short note on -

(a) FHSS signals [8]

(b) Spreading Codes [8]

UNIT- II

Q.2 (a) What is Link engineering? Explain different types of link used in communication system. [8]

(b) Explain the concept of diffraction loss as a function of path difference around an obstruction by Fresnel zones. [8]

OR

Q.2 (a) What is Multipath fading? Explain various fading channels present. [8]

(b) Explain the transmitter and receiver block diagram of microware link. [8]

UNIT- III

Q.3 (a) Explain the CDMA principle of operation with its advantages and disadvantages. Which type of Handoffs occur in CDMA mobile system? [10]

(b) If a normal GSM time slot consists of 6 trailing bits, 8.25 guard bits, 26 training bits and 2 traffic bursts of 61 bits of data, find the frame efficiency. [6]

OR

Q.3 (a) The "near – far interference" is a serious problem in wireless cellular CDMA network, what is the reason for it? [8]

(b) Explain the TDMA principle of operation with TDMA/TDD example, also write its advantages, disadvantages and efficiency. [8]

UNIT- IV

Q.4 (a) Explain the Process of Speech Coding in GSM. [8]

(b) Write short note on - [4×2=8]

(i) Mobile IP

(ii) Broad band wireless 1002.16

OR

Q.4 (a) Explain the operation of DECT with its network architecture. [8]

(b) Write short note on – [4×2=8]

(i) Zig bee

(ii) RFID Technology

UNIT- V

Q.5 (a) Explain the AOCS and TTC with suitable diagram for a satellite. [8]

(b) Define Satellite access. Describe the difference between single and multiple access. [8]

OR

Q.5 (a) List the main components of an earth station transmitter. With the assistance of a block diagram briefly explain its function of operation. [8]

(b) Write short note on –

(i) Orbital period and Velocity [4]

(ii) High power amplifier [4]
