Exam.Code:0931
Sub. Code: 6926

1129

B.E. (Electronics and Communication Engineering)
Seventh Semester
EC-710: Wireless and Mobile Communication

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

a) What is co-channel channel Interference?

b) What is Maximum excess delay (X db)?

c) What is MAHO?

d) What is frequency selective fading?

e) Which modulation scheme is used in HSCSD technology?

f) What is Shannon's channel capacity formula?

g) What is dwell time?

h) Why more guard period is provided in RACH channel?

i) What is jamming margin?

j) What is near far problem? (10x1)

UNIT – I

II. a) How capacity of mobile communication enhanced by frequency re-use? Discuss the main constrains in implementing frequency re-use. Describe briefly the various techniques to enhance capacity of cellular communication.

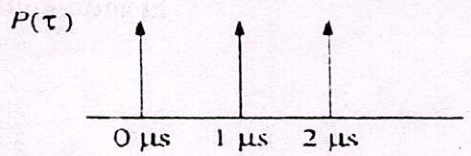
b) What is EDGE technology? How is it different from GPRS & GSM? (2x5)

III. a) What is Wireless Local Loop? List its applications.

b) What is Bluetooth technology? Explain it with the help of suitable diagrams. (2x5)

IV. a) What is handoff? What is handoff? Discuss various handoff strategies & channel assignment strategies.

b) Compute the. mean excess delay and rms delay spread for the following power delay profile:



(2x5)

P.T.O.

UNIT – II

V. a) What are differences between wireless and fixed telephone networks.

b) If GSM uses a frame structure where each frame consists of eight time slots, and each time slot contains 156.25 bits, and data is transmitted at 270.833 kbps in the channel, find (i) the time duration of a bit, (ii) time duration of a slot, (iii) how long must a user occupying a single time slot wait between two successive transmissions.

c) What is small scale fading? Explain various factors influencing small scale fading and types of small scale fading. (2,3,5)

VI. a) Assume four branch diversity is used,, where each branch receives an independent Rayleigh fading signal. If the average SNR is 20 dB, determine the probability that the SNR will drop below 10 dB. Compare this with the case of a single receiver without diversity.

b) What is Equalization? Explain the role of equalizers in mobile communication. (2x5)

VII. a) Explain GSM Architecture in detail and list its various interfaces.

b) Explain IS-95 CDMA Reverse Channel Modulation in detail? (2x5)

x-x-x