Manarat International University (MIU)

Cellular Mobile and Satellite Communication (CSE-472)

Quiz Test

ID: …… Time: 30 minutes Point: 25

1. Select the correct Answer 5

a. Quantization noise can be reduced by _____ the number of levels.

a) Decreasing	c) Doubling
b) Increasing	d) Squaring

b. The signals which are obtained by encoding each quantized signal into a digital word is called as

a) PAM signal	c) FM signal
b) PCM signal	d) Sampling and quantization

c. In Frequency Modulation –

a) Amplitude of the carrier remains same	c) The number of side bands are infinite
b) Frequency of the carrier varies in accordance with the modulating signal	d) All of the above

d. The modulation index of FM is given by

a) frequency deviation/ modulating frequency	c) modulating frequency/ carrier frequency
b) modulating frequency /frequency deviation	d) carrier frequency / modulating frequency

e. FM is advantageous over AM as

a. The amplitude of FM is constant. So transmitter power remains unchanged in FM but it changes in AM	**c.** There is less possibility of adjacent channel interference due to presence of guard bands
b.The depth of modulation in FM can be changed to any value by changing the frequency deviation. So the signal is not distorted	d) All of the above

2. Briefly answer the following questions.

i. What is the minimum bandwidth of an AM wave ? 1

ii. What is Modulation and Demodulation ? 2

iii. What do you mean by multiplexing ? In what situation multiplexing is used? 2+2

iv. What's the difference between a *Rayleigh fading* and a *Rician fading*? 2

v. How do we undo fading effect ? 2

vi. Explain *Channel estimation* in mobile wireless systems. 2

vii. Explain digital pulse code modulation with block diagram. 4

viii. In the following figure two signals sampled and multiplexed in time. Illustrate the output . 3