EC - 7011

B.E. VII Semester

Examination, June 2015

Wireless Communication

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any 10 questions.

ii) All questions carry 7 marks.

iii) Assume any missing data.

1. a) define wave guiding.

b) Define the term fading margin and outage probability mention their significance in cellular planning.

2. a) Discuss the effect of path loss on the performance of a cellular radio network.

b) Discuss the mathematical model of the wireless channel. Which take into account all possible effects

observed over the channel.

b) What do you mean by spreading of spectrum? How can you say that spread spectrum becomes spectrally

efficient and in which case?

4. a) What do you mean by multi hop transmission? Where it is applicable.

b) Show that for a reference transmitter with EIRP of 1kW

in free space, the usable field strength

5. a) Describe the method for controlling the errors? How can the error control be achieved with the error

detection schemes?

b) How maximum likelihood sequence estimation can be made? Explain in brief.

6. a) Describe the mathematical model of the radio channel.

b) Design a three-tap linear transversal equalizer

for the received pulse r(t) , where

r (0) = 1, r(1) = 0.3, r(-1) = - 0.3

r (2) = 0.1, r(-2) = 0.2

r(3) = - 0.03, r(-3) = -0.02

Also find the setting of the coefficient values.

7. a) What do you mean by blind equalize? Explain.

b) Discuss the condensed parameters.

8. Write short note on any two of the following:

a) Antennas for mobile stations

b) Frequency dispersive fading

c) Transmit diversity

d) Narrow band model

9. Describe the method for controlling the errors.

10.write comparison of equalizer structures

11.describe the wireless system to define WSSUS model

12.define Structure of a wireless communication link.

13.define Viterbi detector

14. fractional spaced equalizers.