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BIEL-018

B.Tech. – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

00548

Term-End Examination

December, 2015

BIEL-018 : WIRELESS COMMUNICATION

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **five** questions. Missing data may be suitably assumed. Use of scientific calculator is permitted.*

1. (a) Explain Channel Assignment Strategies. 7

(b) How is the capacity in a cellular system improved ? 7

2. (a) Explain the function of a RAKE Receiver with a neat sketch. 7

(b) What are the spread spectrum modulation techniques ? Explain FH-SS in detail. 7

3. (a) Calculate the mean excess delay, rms delay spread and the maximum excess delay (10 dB) for the multipath profile given in figure 1 below. Estimate the 50% coherence bandwidth of the channel. 7

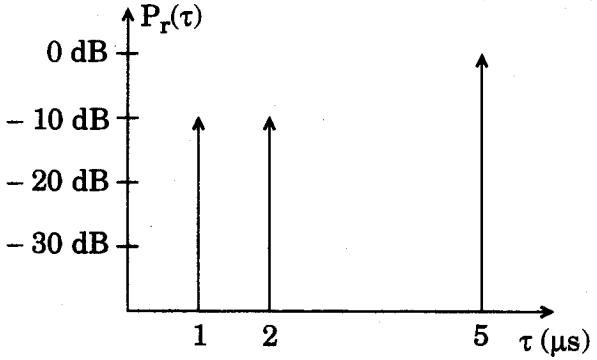

Figure 1

(b) Explain the hand-off process with suitable diagrams of proper and improper hand-off. 7

4. (a) What are Vocoders ? Explain Channel Vocoders in detail. 7

(b) Differentiate between frequency selective versus flat fading and fast versus slow fading. 7

5. (a) Explain the Space Division Multiple Access (SDMA) technique with a suitable diagram. 7

(b) What is the difference between FDMA and TDMA technologies ? How is the number of available total channels calculated in the FDMA technique ? 7

6. (a) Explain free space propagation model. Differentiate between large-scale and small-scale path loss. 7

(b) What is meant by frequency reuse concept ? How is it used to increase the cellular system capacities ? Explain with a suitable example. 7

7. Write short notes on any ***two*** of the following : *2×7=14*

(a) Linear Predictive Coders

(b) Wireless Standards

(c) Log-distance Path Loss Model