

**B.Tech. - VIEP - ELECTRONICS AND  
COMMUNICATION ENGINEERING  
(BTECVI)**

00124

**Term-End Examination**

**June, 2017**

**BIEL-018 : WIRELESS COMMUNICATION**

*Time : 3 hours*

*Maximum Marks : 70*

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

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1. (a) Explain the three basic propagation mechanisms. 7
- (b) Explain the evolution of mobile radio communication. 7
2. (a) What is impulse response model ? Determine the parameters of multipath channels using this model. 7

- (b) What are the different types of fading used in wireless communication ? Explain the theory of multipath shape factor for fading wireless channels. 7
3. (a) Differentiate between linear and non-linear equalizers with the help of suitable examples. 7
- (b) Explain the modulation phenomenon in fading and multipath channels. 7
4. (a) What are "Vocoders" ? Explain the concept of channel vocoders in detail. 7
- (b) Explain in detail the concept of Pseudo-Noise Sequence. Also list their advantages and disadvantages. 7
5. (a) Define frequency reuse concept. With the help of a simple example, explain how it can be used to increase cellular system capacities. 7
- (b) List the methods which are used for minimizing co-channel and adjacent channel interference. 7

6. (a) Explain the various characteristics of speech signals. 7
- (b) What do you mean by the term quantization ? Explain the various techniques used for quantization in detail with example. 7
7. Write short notes on any *two* of the following :  $2 \times 7 = 14$
- (a) Rake Receiver
- (b) 3G Wireless Systems
- (c) Hand-off Strategies
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