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Total No. of Printed Pages: 1

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**B. Tech. (EE) (Semester – 5<sup>th</sup>/6<sup>th</sup>/8<sup>th</sup>)**  
**FUNDAMENTALS OF WIRELESS COMMUNICATION**  
**Subject Code: BECEO1003**  
**Paper ID: [18OE111524]**

**Time: 03 Hours**

**Maximum Marks: 60**

**Instruction for candidates:**

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

**Section – A**

**(2 marks each)**

Q1. Attempt the following:

- a. Compare the performance of Zigbee and Bluetooth briefly.
- b. Discuss the concept of cordless telephone system.
- c. What is reduction factor in wireless communication?
- d. What are paging systems?
- e. What is WiMAX technology?
- f. Give few limitations of 3<sup>rd</sup> generation wireless communication system.
- g. What do you mean by co-channel interference?
- h. Describe the concept of VoLTE.
- i. Define SDMA.
- j. What does Frequency reuse mean?

**Section – B**

**(5 marks each)**

Q2. Distinguish between FDMA and TDMA system.

Q3. Write down various issues and challenges in Adhoc Wireless networks.

Q4. Illustrate the various physical factors which influence small scale fading.

Q5. Explain in detail the cellular telephone system.

Q6. Elaborate the Spread Spectrum Multiple Access technique in detail.

**Section – C**

**(10 marks each)**

Q7. Discuss the 4<sup>th</sup> and 5<sup>th</sup> generation wireless network in detail.

Q8. Compare the wireless and fixed telephone networks. Discuss the history of wireless communication systems in detail

Q9. Write short note on:

- a) Wireless local area networks
- b) Personal area networks