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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12EC251** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **Basics of Mobile Communication** | **Max. marks :** | **100** |

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| **Q. No** | **Questions** | | **Marks** |
| **PART-A(10X1=10 MARKS)** | | | |
| 1. | What is Grade of Service in cellular mobile communication? | | (1) |
| 2. | Define cell. | | (1) |
| 3. | The shift in received signal frequency due to motion is called \_\_\_\_\_\_\_\_\_\_. | | (1) |
| 4. | What is flat fading? | | (1) |
| 5. | What are the techniques used to improve the received signal quality? | | (1) |
| 6. | What are the nonlinear equalization methods used? | | (1) |
| 7. | LPC stands for \_\_\_\_\_\_\_\_\_\_\_. | | (1) |
| 8. | What is near-far problem in CDMA? | | (1) |
| 9. | Write advantages of 2G over 1G. | | (1) |
| 10. | The frequency band used by Bluetooth technology is \_\_\_\_\_\_\_\_\_\_\_\_\_. | | (1) |
| **PART B(5 X 3= 15 MARKS)** | | | |
| 11. | What is Handoff? | | (3) |
| 12. | What are large scale models? | | (3) |
| 13. | Write the advantages of M-ary QAM over M-ary PSK. | | (3) |
| 14. | What is CELP? State its application. | | (3) |
| 15. | Write short notes on 3G cellular systems. | | (3) |
| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. |  | What are the advantages of frequency reuse approach? Explain the concept of frequency reuse as applied to Cellular Communications with neat diagrams. | (15) |
| (OR) | | | |
| 17. |  | Explain how Channel assignment and interference reduction is achieved in Cellular Mobile Communication Systems. | (15) |
| 18. |  | Describe about small scale multipath propagation and factors influencing small scale fading. | (15) |
| (OR) | | | |
| 19. |  | Illustrate the Friis free space model with necessary diagrams. In which region the model is valid? | (15) |
| 20. |  | Explain in detail the modulation and reception of signals in the MSK technique. | (15) |
| (OR) | | | |
| 21. |  | What is the difference between linear and nonlinear equalizer? Give the classification of equalizers. | (15) |
| 22. |  | Describe in detail about the operation of GSM codec with a diagram. | (15) |
| (OR) | | | |
| 23. |  | Compare in detail about FDMA, TDMA, SDMA and CDMA. | (15) |
| 24. |  | With a neat diagram, explain the DECT architecture. | (15) |
| (OR) | | | |
| 25. |  | What are the different types of services offered by GSM? Explain the following GSM Radio Interfaces:  a. Mobile Station (MS) to Base transceiver Interface (BTS). b.BTS to BSC.  c. BSC to MSC. d. Interfaces between other GSM Entities. | (15) |