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Reg. No.

Question Paper Code

11814

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Sixth Semester

Electronics and Communication Engineering

EC8652 - WIRELESS COMMUNICATION

(Regulation 2017)

Duration: 3 Hours

Max. Marks: 100

PART-A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. What is meant by multipath propagation? | 2,K1,CO1 |
| 2. What is flat fading? | 2,K1,CO1 |
| 3. What do you mean by forward and reverse channel? | 2,K1,CO2 |
| 4. List any four important features of CDMA. | 2,K1,CO2 |
| 5. Define offset QPSK and $\pi/4$ differential QPSK. | 2,K1,CO4 |
| 6. State the advantage of using GMSK rather than MSK. | 2,K1,CO4 |
| 7. Define spatial diversity. | 2,K1,CO5 |
| 8. Differentiate micro and macro diversity. | 2,K2,CO5 |
| 9. What are the basic types of pre-coding? | 2,K1,CO6 |
| 10. Compare various MIMO techniques. | 2,K2,CO6 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) (i) What do you mean by path loss model? Explain in detail about log-distance path loss model. 7,K2,CO1
- (ii) What is the need for link calculation? Explain with suitable examples. 6,K2,CO1
- OR**
- b) Distinguish fast fading and slow fading in wireless channel and explain them in detail. 13,K2,CO1
12. a) Identify the channel capacity of TDMA in cell system. 13,K2,CO2
- OR**
- b) Compare and contrast the various types of multiple access techniques. 13,K2,CO2

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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13. a) Compare and contrast GMSK with other fundamental PSK modulation techniques. *13,K2,CO4*

OR

- b) Examine the principle of MSK modulation and derive the expression for power spectral density. *13,K2,CO4*

14. a) Describe in detail about (i) Linear equalizers (ii) Non-linear equalizers. *13,K2,CO5*

OR

- b) Explain various diversity techniques used in wireless communication. *13,K2,CO5*

15. a) What is meant by MIMO systems? Explain the system model with necessary diagrams. *13,K2,CO6*

OR

- b) Distinguish between different beam forming techniques. *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Explain in detail Trunking and Grade of service of cell system. *15,K2,CO3*

OR

- b) Discuss in detail the handoff technique and its types. *15,K2,CO3*