



MUTHAYAMMAL ENGINEERING COLLEGE

(An Autonomous Institution)

(Approved by AICTE, New Delhi, Accredited by NAAC & Affiliated to Anna University)
Rasipuram - 637 408, Namakkal Dist., Tamil Nadu.

Department of Electronics and Communication Engineering



Department of Electronics and Communication Engineering
Question Bank - Academic Year (2021-22)

Course Code & Course Name : 19ECE14 & Wireless Communication

Year/Sem : III/VI

Unit-I: Introduction to Wireless Communication

Part-A (2 Marks)

1. What is meant by frequency reuse?
2. What do you mean by foot print and dwell time?
3. State hand off principle.
4. Define grade of service.
5. Define signal to interference ratio.
6. What is blocked call clear system (BCC)?
7. State the process of finding nearest Co-channel cell.
8. Distinguish fixed channel assignment with dynamic channel assignment.
9. What is cell splitting?
10. What is cluster?

Part-B (16 Marks)

1. Write detail about trunking and grade of service of cell system. (16)
2. Describe the various types of Handoff processes available. (16)
3. Explain in detail the different techniques used to improve coverage & capacity of cellular system. (16)
4. Write short notes on frequency reuse & channel assignment. (16)
5. Discuss in detail about Interference and system Capacity. (16)

Unit-II : Mobile Radio Propagation

Part-A (2 Marks)

1. Describe radio wave propagation
2. Convert mathematical transmit signal models.
3. State empirical path loss model.
4. Enumerate merits and demerits of Okumara's model?

5. List the advantages and disadvantages of Hata model?
6. Mention some indoor propagation models?
7. Define Doppler frequency
8. Express complex envelope signal.
9. Identify knife edge diffraction
10. Indicate Simplified path loss model

Part-B (16 Marks)

1. Describe in detail two ray model propagation mechanism. (16)
- 2.(i) Expound piecewise linear model and indoor propagation models (8)
 - (ii) Formulate the performance of Digital modulation in slow flat fading channel (8)
- 3.(i) Clarify transmit and receive signal model (8)
 - (ii) Describe empirical path loss model and shadow fading. (8)
- 4.(i) Compare combine path loss and shadowing (8)
 - (ii) Write short note on cell coverage area. (8)
- 5.(i) Explain outage probability under path loss and shadowing (8)
 - (ii) Detail simplified path loss model. (8)

Unit-III : Fading and design parameters of Base and Mobile station

Part-A (2 Marks)

1. Define fading.
2. Mention the effects of small scale fading
3. Name the factors influencing small scale fading.
4. What is coherence time?
5. Express coherence bandwidth?
6. Write the conditions for flat fading.
7. Mention the channel classification based on Doppler spread.
8. Give the conditions for fast fading channel
9. Define frequency selective fast fading channel
10. Mention the conditions for slow fading.

Part-B (16 Marks)

1. Discuss in detail about Rayleigh and Raicean Distribution.
2. Write short notes on the small scale multipath measurements.
3. Explain in detail about the impulse response model of a multipath channel.
4. Explain the various types of small scale fading.
5. Describe the parameters of mobile multipath channels.

Unit-IV : Multiple access schemes

Part-A (2 Marks)

1. Define FDMA and TDMA.
2. Mention the different types of cells.
3. What is SDMA?
4. What is near and far terminals?
5. How are guard spaces realized between users in CDMA?
6. Define classical Alopha.
7. Define slotted Alopha.
8. Differentiate classical alopha and slotted alopha.
9. Write the advantages of slotted alopha over classical alopha.
10. Define CSMA

Part-B (16 Marks)

1. Explain in detail the CDMA multiple access technique. (16)
2. Explain the principles of Frequency Hopping spread spectrum technique and direct sequence spread spectrum technique. (16)
3. Explain the principles of Code Division Multiple Access and compared with TDMA (16)
- 4.(i) Explain the operations of orthogonal frequency division multiplexing (8)
(ii) Compare and Contrast the TDMA, FDMA and CDMA techniques. (8)
5. Explain in detail the SDMA multiple access technique. (16)

Unit-V : Wireless Systems and Standards

Part-A (2 Marks)

1. Lists are main subsystems of GSM architecture?
2. What are the channel types of GSM system?
3. List the interfaces used in the GSM?
4. What is the function of NSS in GSM?
5. State is BCCH?
6. What is IS – 95?
7. What is CCCH?
8. What is IEEE 802.11a?
9. What are the three basic topologies supported by IEEE802.11 for WLAN.
10. What is OFDM?

Part-B (16 Marks)

1. With a neat diagram explain GSM system architecture. (16)
2. Explain in the following (i) GSM Channel types (ii) GSM Frame Structure. (16)
3. Explain forward & reverse channel parameters of IS-95 CDMA. (16)
4. Explain with necessary diagram, the operation of OFDM transceiver. (16)
5. With a neat diagram explain IEEE802.11 Architecture. (16)

Course Faculty

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