

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Draw and explain the architecture of UMTS. 3+5

Q.24 Write short note on :

a) WCDMA and

b) GPRS 4+4

Q.25 Write a short note on :

a) Cellular network systems and

b) Concept of new radio technology 4+4

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Roll No.

5th Sem / ECE, ECE(For Speech and Hearing Impaired)

Subject : Wireless & Mobile Communication

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 In cellular network, adjacent cells operates on different frequencies to avoid_____.

a) Crosstalk

b) Reflection

c) Refraction

d) Thermal noise

Q.2 In_____ different frequency components affected differently.

a) Fast fading

b) Slow fading

c) Flat fading

d) Selective fading

Q.3 _____ is the process of subdividing a congested cell into smaller cells.

a) Cell splitting

b) Coverage zone approaches

c) Cell sectoring

d) Power level

Q.4 What is the full form of MIN in wireless communication?

- a) Multiple identification number
- b) Mobile identification number
- c) Multipath identification number
- d) Mean identification number

Q.5 What changes GPRS need to acquire while upgrading itself from GSM?

- a) A whole new base station
- b) New transceiver at base station
- c) New channel cards
- d) New packet overlay including routers and gateways

Q.6 Which of the following is a CDMA standard of second generation network?

- a) IS-95 b) IS-136
- c) ETACS d) EDGE

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define fast fading.

Q.8 Expand WCDMA.

Q.9 Expand GPRS.

Q.10 WiFi Hotspots typically cover a distance of _____

Q.11 Expand mMTC.

Q.12 Define interference.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 List any four features of LTE.

Q.14 List any four advantages of Bluetooth Technology.

Q.15 List any four features of 4G.

Q.16 What is the purpose of SGSN?

Q.17 List any four advantages of CDMA.

Q.18 List any four features of TDMA.

Q.19 Briefly explain the term frequency Reuse.

Q.20 Write a short note on power control for reducing interference.

Q.21 List any four advantages of wireless communication.

Q.22 How does fading affect propagation of signals.

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SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 Which of these is a characteristics of cellular networks?
- a) Uses landlines only
 - b) High mobility
 - c) Requires large antennas
 - d) Low frequency spectrum usage
- Q.2 What is the full form of GPRS?
- a) General Packet Radio Service
 - b) Global Positioning Radio System
 - c) General Public Radio System
 - d) Global Packet Radio Satellite

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- Q.3 Which technology uses time slots to share frequency among users?
- a) CDMA
 - b) TDMA
 - c) FDMA
 - d) OFDMA
- Q.4 What is handover in mobile communication?
- a) Connecting to the nearest tower
 - b) Switching channels
 - c) Changing frequency
 - d) Transferring an active call from one cell to another
- Q.5 In cellular communication, what is a 'cell'?
- a) A type of mobile phone
 - b) A geographical area covered by a network
 - c) The main base station
 - d) A network protocol
- Q.6 Which of the following is a feature of 3G networks?
- a) Provides text messaging only
 - b) Enables internet browsing and video calls
 - c) Only works in urban areas
 - d) Has limited data speed

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SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Define cell area in the context of cellular networks.
- Q.8 Mention one primary use of Wi-Fi in mobile communication.
- Q.9 What is the function of EDGE in mobile networks?
- Q.10 Write the full form of CDMA.
- Q.11 Name one advantage of 4G over 3G technology.
- Q.12 What is fading in wireless communication?

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Explain the difference between a base station and a mobile station in cellular networks.
- Q.14 Describe any two advantages of wireless communication over wired communication.
- Q.15 What are the main features of 5G technology.?
- Q.16 Briefly explain how Frequency Division Multiple Access (FDMA) works.
- Q.17 Discuss the role of power control in reducing interference in cellular systems.

- Q.18 Explain the concept of adjacent channel interference.

- Q.19 Describe the architecture of GPRS.

- Q.20 What is cell sectoring and how does it improve network performance?

- Q.21 Outline the key features of Bluetooth technology in wireless communication.

- Q.22 What is OFDMA and where is it used?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Compare the main differences between 2G, 3G, and 4G technologies in terms of speed and functionality.

- Q.24 Describe the architecture and functions of Global System for Mobile Communication (GSM).

- Q.25 Explain Frequency Division Multiple Access (FDMA) technology and discuss its applications and benefits.

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SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

- Q.1 The first 2G system is known as :
a) GSM b) CDMA
c) TDMA d) FDMA
- Q.2 Larger cells are more useful in :
a) Densely populated urban areas
b) Rural areas
c) Lightly populated urban areas
d) Mountain areas
- Q.3 Which of the following is not a limitation of AMPS:
a) Low calling capacity b) Poor privacy protection
c) Limited spectrum d) Wide coverage area
- Q.4 In CDMA, all earth stations can transmit:
a) On the same frequency

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- b) At the same time
c) Both A & B
d) None of these

- Q.5 Limitation of cordless telephone are :
a) Background noise b) Side tone
c) Frequency response d) All of the above
- Q.6 MSC in GSM architecture stands for :
a) Mobile station centre
b) Mobile switching centre
c) Mobile station controller
d) None of these

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Define frequency spectrum.
- Q.8 TDMA stands for _____.
- Q.9 What is the purpose of sectoring in cellular networks?
- Q.10 Write the full form of EDGE in mobile communication.
- Q.11 Name any two types of interference in wireless communication.

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Q.12 Define propagation in the context of wireless communication.

Section-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)

Q.13 Explain the basic concept of frequency reuse in cellular communication.

Q.14 Describe the structure of a cell site.

Q.15 What are the key differences between FDMA and TDMA?

Q.16 Explain the purpose and working of Global System for Mobile Communication (GSM).

Q.17 What is co-channel interference? How is it controlled?

Q.18 Describe the concept of time-division multiple access (TDMA).

Q.19 Write a short note on the advantages and limitations of wireless communication.

Q.20 Explain the role of Bluetooth and Wi-Fi in wireless communication.

Q.21 What are the main features of 4G technology?

Q.22 Discuss the concept of cell splitting and its importance.

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

Q.23 Compare and contrast 3G, 4G and 5G technologies in terms of speed, architecture & applications.

Q.24 Explain the architecture and working of LTE (Long Term Evolution)

Q.25 Describe Code Division Multiple Access (CDMA). Discuss advantages and applications of CDMA.

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