

## **34083 – Mobile Communication**

### **1. Introduction To Mobile Communication**

#### **Part – A**

1. What is cordless telephone system?
2. Define sectoring.
3. What is the use of paging systems?
4. What do you mean by cellular concept?
5. What is the use of handoffs?
6. What do you mean by cell splitting?

#### **Part – B**

1. Write notes on paging systems.
2. Write notes on Mobile Radio Telephony in India.
3. Write notes on frequency reuse.
4. Explain dynamic channel assignment strategy.
5. Write notes on repeaters for range extension.

#### **Part – C**

1. Discuss about the evolution of mobile radio communication.
2. Write short notes on cordless telephone system.
3. Explain the interference and system capacity of cellular radio systems. How will you improve the coverage and capacity in cellular systems?
4. Write notes on the examples of wireless communication systems.
5. Explain the trends in cellular radio and personal communications.

### **2. Broadcast Systems**

#### **Part – A**

1. What are the goals of digital video broadcasting?
2. Define unidirectional distribution systems and symmetrical communication systems.
3. Explain main service channel.
4. Write short notes on synchronization channel.
5. Explain data streaming.

#### **Part – B**

1. What is cyclical repetition of data.
2. Compare digital audio broadcasting (DAB) and digital video broadcasting (DVB).
3. Explain the various types of transport mechanisms used in DAB.
4. With the block diagram, explain DAB sender.
5. Explain different interleaving and repetition schemes.

#### **Part – C**

1. Explain about the multimedia object transfer protocol.
2. Write about digital video broadcasting for high speed internet access.
3. Explain in detail about digital audio broadcasting.
4. With the proper diagram, explain cyclical repetition of data.
5. Explain the convergence of broadcasting and mobile communications.

### **3. Wireless Transmission (2G)**

#### **Part – A**

1. List the three different categories of services of GSM.
2. What is the use of GSM logic channels?
3. Define TETRA.
4. Define soft handover.
5. Define data scrambler.

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### Part – B

1. What is UMTS?
2. What are the frequency and the channel specifications of IS-95?
3. State the features of GSM services.
4. Explain broadcast channel.
5. Explain data link control layer.
6. Explain hard handover.

### Part – C

1. Explain about the components of radio subsystem.
2. Describe handover.
3. Explain about the system architecture of DECT.
4. With the diagram, explain GSM system architecture.
5. With the diagram, explain UMTS.
6. Explain CDMA digital cellular standard.

### 4. Wireless Networking (3G)

#### Part – A

1. What is the purpose of 3G CDMA 2000?
2. Define WAP.
3. Specify the various functional groups of GPRS.
4. What do you mean by HLR and VLR?
5. Define EPOC.

#### Part – B

1. List the parameters of quality of service (QoS) in 3G.
2. How is billing performed in GPRS?
3. Explain MExE.
4. Compare W-CDMA and cdma 2000.
5. Explain DoCoMo W-CDMA mobile station.
6. Specify the three Flexent base station models.

#### Part – C

1. Explain any two wireless OS for 3G handset.
2. Explain about WAP gateway.
3. Explain the architecture of GPRS with diagram.
4. Explain PDP context procedures with proper diagrams.
5. Explain WAP developer and tool kits.

### 5. Mobile Network Layer and Transport Layer

#### Part – A

1. Write the disadvantage of fast retransmit / fast recovery.
2. What is encapsulation?
3. Specify the 3 architectures for the implementation of an HA.
4. Define firewalls.
5. Define damping in DSDV.
6. Define Jitter.

#### Part – B

1. What is reverse tunneling?
2. Explain agent solicitation.
3. Explain HAWII.
4. Specify the ways to optimize the basic algorithm for route discovery.

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5. Specify the overviews of classical mechanism.

### Part – C

1. How does snooping TCP works? Write its advantages and disadvantages.
2. How optimization is done when the mobile node changes its foreign agent?
3. Explain about routing and its methods in detail.
4. Explain IPv6.
5. Explain DHCP.
6. Explain Mobile Ad-hoc network.
7. Explain congestion control.
8. Explain TCP over 2.5/3G wireless networks.

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