

Scheme – I

Sample Question Paper

Program Name : Electronics Engineering Programme Group
Program Code : EJ/ET/EN/EX/EQ
Semester : Fifth
Course Title : Mobile and Wireless Communication
Marks : 70

22533

Time: 3 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following:

10 Marks

- (a) State two features of N- AMPS
- (b) Define cluster. Draw the diagram of a7 cell cluster
- (c) Explain the term frequency reuse
- (d) State data rates of 3G and 4G technologies
- (e) State the need for 4G technology
- (f) State two features of Bluetooth technology
- (g) State two applications of MANET

Q.2) Attempt any THREE of the following:

12 Marks

- (a) State four features of CDMA 2000 radio standards
- (b) Explain Handoff procedure with suitable diagram. State its types. Explain any one type
- (c) Explain the step by step procedure of a mobile originated call
- (d) CDMA 2000 is more advantageous than 3G GSM standards, Justify.

Q.3) Attempt any THREE of the following.

12 Marks

- (a) Explain channel assignment strategies in a cellular system

- (b) Draw the architecture of UMTS. State the function of various blocks
- (c) Draw the system architecture of WLAN and explain with suitable diagram
- (d) Fig. 1 is block diagram of a security frame work of UMTS, Identify the blocks A and B Explain their functions.

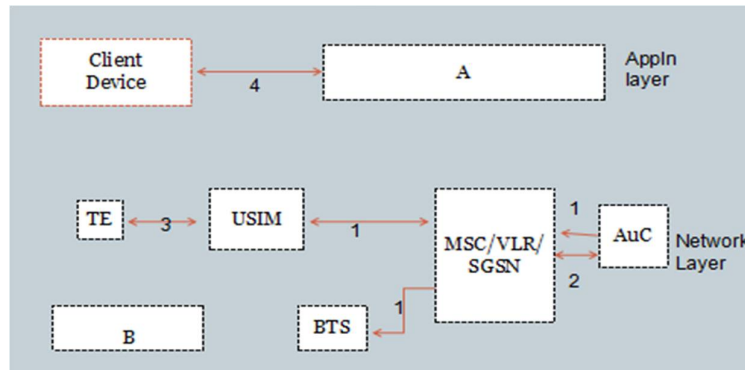


Fig 1.

Q.4) Attempt any THREE of the following.

12 Marks

- (a) Compare IS-95 and GSM standards on the basis of
 - i) Multiple Access technique used.
 - ii) Handoff
 - iii) Handset interoperability
 - iv) Coverage area
- (b) State the vision of IMT 2000 global standards
- (c) Explain Authentication process by using Cipher key generation in GSM.
- (d) It is desired to make a database of the students in a college present at any particular day. Explain the approach to maintain and check a database for students of the college with RFID technology
- (e) Explain the services and performance of Signaling System 7

Q.5) Attempt any TWO of the following.

12 Marks

- (a) Draw the block diagram of a mobile phone unit and state the function of each block.
- (b) Suggest the method to minimize adjacent channel interference, improve signal to interference ratio and improve the system capacity. Explain the suggested method with diagram

- (c) Draw the block diagram of GSM architecture and explain Base station subsystem and Network subsystem

Q.6) Attempt any TWO of the following.

12 Marks

- a) Compare fixed wireless networks and mobile wireless networks on the basis of
- i) Portability
 - ii) Latency
 - iii) Type of connection
 - iv) Speed
 - v) Type of base stations
 - vi) Application
- b) Illustrate significance of six characteristics of IMT 2000.
- c) Explain the different types of MANETs.

Scheme – I

Sample Test Paper - I

Program Name : Electronics Engineering Programme Group
Program Code : EJ/ET/EN/EX/EQ
Semester : Fifth
Course Title : Mobile and Wireless Communication
Marks : 20

22533

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- (a) Sketch the block diagram of paging system.
- (b) List Different types of Handoff in Cellular System
- (c) Define Co-Channel and Adjacent Channel Interference
- (d) "Frequency Reuse Helps in increasing the Channel capacity" Justify.
- (e) Sketch the block diagram of Wireless Local Loop system

Q.2 Attempt any THREE.

12 Marks

- (a) Explain with the help of block diagram, Working of Mobile Transmitter Unit.
- (b) Design a Cellular network with cluster size 7 (Using Frequency Reuse Method).
- (c) Explain with the help of block diagram, function of GSM architecture.
- (d) Justify 'Microcell zone concept used to increase Channel Coverage and capacity'

Scheme – I

Sample Test Paper - II

Program Name : Electronics Engineering Programme Group
Program Code : EJ/ET/EN/EX/EQ
Semester : Fifth
Course Title : Mobile and Wireless Communication
Marks : 20

22533

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- (a) List any four Services Provided by GSM.
- (b) Specify any four Radio Aspects of IS-95 System.
- (c) Draw the WLAN system architecture.
- (d) Explain the function of MTP (Message Transfer Part) in Signaling System 7 (SS7).
- (e) Explain the need of 3G and 4G Technology.

Q.2 Attempt any THREE.

12 Marks

- (a) Compare GSM and IS-95 system (any 4 points)
- (b) Explain with the help of diagram, the topologies used in Mobile Ad-Hoc Network (MANET).
- (c) Explain the features of 4G Technology.
- (d) Explain 3G W-CDMA technology with its four Specifications.