

17632

11920

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. (A) Attempt any THREE of the following :

3 × 4 = 12

- (a) Explain the concept of frequency reuse in Cellular system.
- (b) State four features of GSM.
- (c) Name the mobility databases and state the type of information available in each database.
- (d) Explain the different attacks on dynamic assets with diagram.

(B) Attempt any ONE :

1 × 6 = 6

- (a) Explain with diagram, the algorithm for basic call origination operation in GSM.
- (b) Describe with diagram Android life cycle activity.

[1 of 4]

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2. Attempt any FOUR of the following : 4 × 4 = 16

- (a) Draw the architecture of mobile computing and describe.
- (b) Describe hand off strategies in Cellular system with diagram.
- (c) State the function of following Logical Control channels :
 - (i) Paging Channel
 - (ii) Access Grant Channel
 - (iii) Broadcast Channel
- (d) Describe the stepwise procedure for HLR failure restoration.
- (e) Explain four applications of GPRS.
- (f) Explain stream ciphering and Block ciphering with suitable examples.

3. Attempt any FOUR of the following : 4 × 4 = 16

- (a) Explain fixed channel assignment and Dynamic channel assignment strategy.
- (b) Explain with diagram location tracking in GSM.
- (c) Explain basic location update procedure in an Inter MSc movement of MS.
- (d) Describe the functions of GPRS support nodes.
- (e) Write steps to develop a user interface to create two text boxes to add two numbers and a third text box to show the output.

4. (A) Attempt any THREE of the following : 3 × 4 = 12

- (a) Explain Adjacent channel Interference with diagram.
- (b) Explain any four GSM services.
- (c) List the components of Information security and state features of each.
- (d) Describe the factors that make a smart card secure. Explain multifactor security.

(B) Attempt any ONE of the following : 1 × 6 = 6

- (a) Draw the block diagram of GSM architecture and explain Base station subsystem and Network Subsystem.
- (b) Draw the architecture of Android and state the function of each layer.

5. Attempt any TWO of the following :**2 × 8 = 16**

- (a) Draw the block diagram for processing of signal in GSM and state the function of each block.
- (b) State the features of 3G and 4G technologies. State the advantages of LTE for an end user and for network operators.
- (c) Draw a block diagram of Public Key Cryptography and explain the six components of the same.

6. Attempt any FOUR of the following :**4 × 4 = 16**

- (a) Explain microcell zone concept with a diagram.
 - (b) Explain the sequence of events that take place during GSM to PSTN Call.
 - (c) Explain how the VLR Identification Algorithm (VIA) is implemented after a HLR failure.
 - (d) Explain the VLR overflow algorithm for Call origination to an overflow user.
 - (e) Describe CDMA2000 technology.
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