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16117

3 Hours / 100 Marks

Seat No.

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- 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. a) **Answer any THREE of the following:** **12**
- (i) State different handoff strategies used in analog generation and second generation.
 - (ii) List broadcast channels of GSM and describe two of them.
 - (iii) Write a stepwise procedure of basic call origination and termination in GSM.
 - (iv) Describe data services used in GPRS.
- b) **Answer any ONE of the following:** **6**
- (i) With neat labelled diagram describe GSM architecture. List subsystems involved in it.
 - (ii) Describe security framework for mobile environment in detail.

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- 2. Answer any FOUR of the following:** **16**
- a) With neat labeled diagram describe GSM frame architecture.
 - b) Describe user services provided in GSM.
 - c) State four features of linux operating system.
 - d) Define public key cryptography and describe components of it.
 - e) List applications and limitations of GPRS.
 - f) With the neat diagram describe methods of life cycle of android activity.
- 3. Answer any FOUR of the following:** **16**
- a) Describe how repeaters can be used for range extension in cellular systems.
 - b) List bearer services provided in GPRS and describe each of them.
 - c) Write an algorithm for call registration in VLR overflow.
 - d) State the need of smart card security.
 - e) State the key features of Symbian operating system.
- 4. a) Answer any THREE of the following:** **12**
- (i) Write the stepwise procedure for call delivery to a roaming user in GSM.
 - (ii) Describe cell splitting of cellular system in detail.
 - (iii) Write the stepwise procedure of registration in VLR identification algorithm.
 - (iv) List static asset attacks and describe each of them.
- b) Answer any ONE of the following:** **6**
- (i) Describe UMTS in 3G and 4G technology with its goals.
 - (ii) List components of information security and describe each of them.

- 5. Answer any TWO of the following:** **16**
- a) With neat labeled diagram describe three-tier mobile computing architecture.
 - b) Describe signal processing in GSM in detail.
 - c) With the neat diagram describe android architecture.
- 6. Answer any FOUR of the following:** **16**
- a) Write a stepwise procedure of GSM updation for inter MSC movement.
 - b) Describe mobility database of GSM in detail.
 - c) With neat labeled diagram describe 3GPP security architecture.
 - d) Describe routing of packets in GPRS in detail.
 - e) Describe the attachment and detachment procedure of GPRS in detail.
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