

22533

23124

3 Hours / 70 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. Attempt any FIVE of the following: **10****
- a) Define Base station and Forward channel.
 - b) Define Frequency Reuse and draw frequency Reuse pattern for $N = 7$.
 - c) Explain the term Cell splitting.
 - d) State any four parameters of W-CDMA.
 - e) State features of 3G Technology.
 - f) State key features of IEEE 802.16 W-MAN.
 - g) List the applications of WLL.

P.T.O.

- 2. Attempt any THREE of the following: 12**
- a) State different wireless communication system and explain any one.
 - b) Explain Cellular System Interference.
 - c) Draw and explain GSM Architecture.
 - d) CDMA-2000 is more advantageous than 3G Gsm standards, justify the statement.
- 3. Attempt any THREE of the following: 12**
- a) Explain Microcell zone concept to improve the channel capacity.
 - b) Explain protocol layers of W-CDMA.
 - c) Describe Bluetooth technology with block diagram.
 - d) Draw and explain Architecture of IMT-2000.
- 4. Attempt any THREE of the following: 12**
- a) Compare IS-95 and CDMA. (any four points)
 - b) State need for 4G technology and list the advantages of 4G technology.
 - c) State and explain GSM services.
 - d) Explain the concept of RFID and give the applications of RFID.
 - e) Explain services and performance of SS7.
- 5. Attempt any TWO of the following: 12**
- a) Draw and explain blocks diagrams of frequency synthesizer.
 - b) i) Explain the concept of Handoff. State its types.
ii) Describe Umbrella cell approach.
 - c) Draw the block diagram of IS-95 architecture and explain each blocks.

6. Attempt any TWO of the following:**12**

- 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) List features of CDMA-2000 and compare UMTS and CDMA-2000.
- c) State types of wireless Networks and describe MANET.
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