

22622

24225

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 the term :
 - i) IMSI
 - ii) IMEI
 - b) Enlist any two services of GPRS.
 - c) State any two applications of 4G Technology.
 - d) State two advantages of Wireless Local Loop (WLL).
 - e) State any two characteristics of MANET.
 - f) Enlist any two advantages of UMTS.
 - g) State any two types of MANET.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Explain Mobility Databases HLR and VLR.
 - b) Explain Bluetooth Architecture with suitable diagram.
 - c) Describe WML with suitable example.
 - d) Explain the block diagram of PCM transmitter and receiver.
- 3. Attempt any THREE of the following :** **12**
- a) Draw the basic block diagram of RFID system and list the applications of RFID.
 - b) Encode the datastream 10110100101 using the following techniques
 - i) AMI
 - ii) Polar NRZ
 - c) Compare CDMA2000 and UMTS with respect to
 - i) Channel Bandwidth
 - ii) Chip Rate
 - iii) Backward Compatibility
 - iv) Power Control frequency
 - d) Draw the block diagram of sensor node and explain.
- 4. Attempt any THREE of the following :** **12**
- a) Explain vision of IMT-2000 (Any four points)
 - b) Draw the architecture of WLAN and explain its types.
 - c) Explain advantages and disadvantages of WSN.
 - d) Draw the architecture of GSM and state the function of each block.
 - e) Enlist any four specifications of UMTS.

5. Attempt any TWO of the following : 12

- a) Draw GSM logical channel structure and describe the common control channels.
- b) Draw the waveform for 10110100101 in following formats.
 - i) Polar RL
 - ii) Manchester
 - iii) Unpolar RL
 - iv) Differential Manchester
- c) Differentiate between MANET and WSN with respect to :
 - i) Mode of communication
 - ii) Mobility of Nodes
 - iii) Size of the Network
 - iv) QOS parameter
 - v) Redundancy
 - vi) Mode dependability

6. Attempt any TWO of the following : 12

- a) Draw the GPRS network architecture and explain the functions of GPRS network support nodes.
 - b) Compare any six features of 4G and 5G.
 - c) Draw the layered architecture of WSN and explain all the layers.
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