

316325

25226

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

-
- 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) Enlist GSM supplementary services. (Any two)
 - b) State GPRS Services. (Any four)
 - c) Enlist any two advantages of UMTS.
 - d) List the features of CDMA. (Any two)
 - e) State features of IMT 2020 standard. (Any two)
 - f) State any two characteristics of MANET.
 - g) Enlist any two characteristics of WSN.

P.T.O.

- 2. Attempt any THREE of the following : 12**
- a) Explain network signaling in GSM with block diagram.
 - b) Draw the labelled architecture of GSM and explain the function of following entities.
 - i) MSC
 - ii) HLR
 - c) Compare WCDMA and CDMA 2000. (Any four points)
 - d) Compare Wi-Fi and Wi-Max on the basis of following parameters.
 - i) Application
 - ii) Advantages
 - iii) Network Range
 - iv) Transmission speed
- 3. Attempt any THREE of the following : 12**
- a) Draw GSM logical channel structure and describe common control channels.
 - b) Describe features of IMT 2020 standard. (Any four)
 - c) Describe operational Principle of Mobile IP.
 - d) Compare PCM (Pulse Code Modulation) and DM (Delta Modulation)
- 4. Attempt any THREE of the following : 12**
- a) Describe WAP protocol stack with suitable diagram.
 - b) Draw 5G network architecture. Explain functions of following entities.
 - i) Network Repository function
 - ii) Policy control function
 - c) Explain 5G radio spectrum and its frequency bands. (Each two points)
 - d) Draw and explain Wi-Fi Architecture.
 - e) Identify and explain the type of GSM area involved when a mobile user moves from Mumbai to Pune.

5. Attempt any TWO of the following : 12

- a) Describe GPRS architecture with neat diagram.
- b) Draw and explain 5G network slicing architecture.
- c) State Topologies and features (Any Three) of MANETs (Mobile Adhoc Networks)

6. Attempt any TWO of the following : 12

- a) Describe Binary Frequency shift keying with neat diagram. State advantages of it. (Any two advantages)
 - b) Explain mobility management and routing in GPRS.
 - c) Describe Wireless Markup Languages (WML) and explain its importance in mobile communication.
-