

Total No. of Questions : 8]

SEAT No. :

P2026

[Total No. of Pages : 2

[5059] - 632

B.E. (E&TC) (End semester)
MOBILE COMMUNICATION
(2012 Patten)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data, if necessary.*

- Q1)** a) Explain the timing sequence of signals exchanged & signal exchange diagram for local call. [8]
- b) Distinguish between in band and out band signaling. [6]
- c) Explain different Channel Assignment Strategies. [6]

OR

- Q2)** a) With neat diagrams explain evolution of message switching.. [8]
- b) Design two stage switching network for connecting 100 incoming trunks to 100 outgoing trunks & find number of cross point. [6]
- c) Explain the factors influencing Small scale fading. [6]

- Q3)** a) State and explain different types of channels used in AMPS. [4]
- b) Draw a neat diagram of GSM Architecture and explain the function of each block in it. [8]
- c) With a proper diagram explain MS registration in GSM network. [6]

OR

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- Q4)** a) Explain the Handover mechanism in AMPS. [6]
b) With a neat diagram explain [6]
i) Intra-cell Handover
ii) Inter-cell Handover
c) Compare between GSM900 and DCS 1800. [6]

- Q5)** a) Draw a neat diagram & explain block scheme of GSM Half Rate encoder. [6]
b) Write short note on Radio Link Protocol (RLP). [6]
c) State and explain different logical channels used in GPRS. [4]

OR

- Q6)** a) Explain data transmission in GSM network. [6]
b) Draw and explain the GSM network architecture for SMS service. [6]
c) Write short note on GPRS services. [4]

- Q7)** a) Draw & explain the basic transmitter structure for DS-SS-SSMA. [6]
b) Compare between technical parameters of WCDMA & IS-95 [6]
c) Given that the IS-95 CDMA digital cellular systems require $3 \text{ dB} < S_r < 9 \text{ dB}$ which employs QPSK modulation scheme and convolution coding technique. The bandwidth of the channel is 1.25 MHz and the transmission data rate is $R_b = 9.6 \text{ kbps}$. Determine the capacity of a single IS-95 cell. [4]

OR

- Q8)** a) Explain the disadvantages of FDMA & TDMA system & motivation for CDMA as a potential multiple access method. [8]
b) Draw the block diagram of Rake receiver & explain its operation. [8]

