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-CDMA. **[6]**

b) Compare between technical parameters of WCDMA & IS-95 **[6]**

c) Given that the IS-95 CDMA digital cellular systems require 3 dB < Sr < 9 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 Rb = 9.6 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]**