Total No. of Questions :10]

SEAT No. :

P3053

[Total No. of Pages :3

[5154] - 622

B.E. (E & TC)

MOBILE COMMUNICATION

(2012 Course) (Semester - II)

Time : 2½ Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.***
5) ***Assume suitable data, if necessary.***

Q1) a) Explain the assumptions in **[5]**

i) Pure chance traffic

ii) Statistical equilibrium.

b) Explain different channel assignment strategies in mobile cellular system. **[5]**

OR

Q2) a) With a neat diagram explain the term progressive grading in detail. **[5]**

b) Why is handoff necessary in mobile cellular system? Explain Mobile Assisted handoff. **[5]**

Q3) a) Explain the concept of time slot interchange (TSI) in time division switching. **[5]**

P.T.O.

b) During busy hour, 1200 calls were offered to a group of trunks and six were lost. The average call duration was 3 minutes.
Find **[5]**

i) Traffic offered

ii) Traffic carried

iii) Traffic lost

iv) Grade of service

v) Total duration of periods of congestion.

OR

Q4) a) What is a Microcell zone concept? How is it used to improve capcity. **[5]**

b) Write short notes on: **[5]**

i) PCM signaling.

ii) Inter-register signaling.

Q5) a) State and explain different types of channels used in AMPS. **[8]**

b) With a proper flow diagram explain. **[10]**

i) Mobile station registration in GSM network.

ii) Mobile call setup and Termination.

OR

Q6) a) Write a short note on basic radio transmission parameters of the GSM system. **[8]**

b) Draw a neat diagram of GSM Architecture and explain the functions of each block. **[10]**

Q7) a) State and explain data services in GSM. **[8]**

b) With the suitable diagram, explain the frame structure of **[8]**

i) Mobile terminated SMS messages.

ii) Mobile originated SMS messages.

OR

Q8) a) Write a short note on Radio Link Protocol (RLP). **[8]**

b) With a neat diagram explain operation of GMSK modulator. **[8]**

Q9) a) Explain the basic types of pseudo random sequence used in spread spectrum CDMA system. **[8]**

b) Compare between technical parameters of WCDMA & IS-95. **[8]**

OR

Q10)a) Draw the block diagram of Rake receiver & explain its operation. **[8]**

b) Draw and explain the basic receiver structure for DS-CDMA. **[8]**

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