

Total No. of Questions :10]

SEAT No. :

[Total No. of Pages :3

P3053

[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 capacity. [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-SS-SSMA. [8]

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