

Total No. of Questions : 10]

SEAT No. :

P3169

[5461]-212

[Total No. of Pages : 2

B.E. (E & TC)

MOBILE COMMUNICATION

(2012 Course) (End Sem.) (404189) (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 with suitable diagram, datagram packet switching? [6]
- b) Total 4 Erlang of traffic offered by group of 3 trunks. Find GoS and Probability that at least one trunk is free? [4]

OR

- Q2) a)** State & explain different forms of grading? [5]
- b) Prove that for two stage network having equal incoming and outgoing trunk, cross point $C_2 = 2N^{3/2}$. [5]

- Q3) a)** Draw and explain Time Multiplexed Time Switching. [5]
- b) Explain basic components for cellular system. [5]

OR

- Q4) a)** Draw and explain PCM signalling. [6]
- b) A cellular telephone consist of 9 clusters with 4 cells in each clusters and 10 channels in each cell. [4]

Find:

- i) No. of channels per cluster
- ii) Total channel capacity

P.T.O.

- Q5) a)** Explain functions of each GSM logical channel. [9]
b) Explain different security algorithm used in GSM. [8]

OR

- Q6) a)** Draw and explain different GSM interfaces. [6]
b) Explain different radio transmission parameters in GSM? [5]
c) Draw & explain in brief GSM time hierarchy? [6]

- Q7) a)** Explin with suitable diagram, point to point SMS service? [4]
b) Draw and explain architecture of GPRS network? [6]
c) Explain GSM supplimentary services. [7]

OR

- Q8) a)** Draw and explain GSM physical layer? [5]
b) Explain GSM channel coding for full rate speech? [6]
c) Explain ciphering & deciphering used in GSM? [6]

- Q9) a)** Draw and explain DSSS transmitter and receiver. [6]
b) Write CDMA IS-95 technology along with advantages & disadvantages. [5]
c) Write important parameters of W-CDMA system. [5]

OR

- Q10) a)** What are the attributes of WCDMA? [6]
b) Draw and explain architecture of CDMA-2000? [5]
c) Draw and explain: [5]
i) Pilot downlink control logical channel of IS 95
ii) Sync downlink control logical channel of IS 95

