

Total No. of Questions :8]

SEAT No. :

P3988

[4959]-1092

[Total No. of Pages :2

B.E. (E & TC)

MOBILE COMMUNICATION

(2012 Course) (Semester - II) (End - Semester) (404189)

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 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 in brief message switching, circuit switching and manual switching. **[8]**

b) Design a grading for connecting 20 trunks to switches having 10 outlets. **[6]**

c) Derive the approximate formula for S/I using co-channel reuse ratio Q. **[6]**

OR

Q2) a) Explain the assumptions used in second Erlang Distribution for queuing systems. **[8]**

b) Explain Time Space switch. Determine the implementation complexity of the TS switch where the no. of TDM input lines $N=120$. Assume each input line contains DSI signal (24 channels). Assume a one stage matrix is used for the space stage. **[6]**

c) What is Handoff? Why is it necessary in Mobile Cellular System? Explain Mobile Assisted Handoff. **[6]**

Q3) a) In AMPS, explain the call processing of **[8]**

i) Mobile terminated call

ii) Mobile originated call

b) Draw the format of different GSM burst structures and explain each one detail. **[8]**

OR

P.T.O.

- Q4) a)** With a proper diagram explain the time slot hierarchy of GSM system. [8]
b) Compare between GSM900 and DCS 1800. [8]

- Q5) a)** Draw a neat diagram & explain block scheme of GSM Full Rate encoder. [6]
b) With the necessary diagram, explain the role of TAF and IWF in data transmission chain in GSM? [6]
c) With a neat diagram explain the operation of GMSK Modulator. [4]

OR

- Q6) a)** Draw and explain GPRS architecture. [6]
b) Write short note on HSCSD. [6]
c) State and explain data services in GSM. [4]

- Q7) a)** What are the basic types of Pseudorandom sequence used in spread spectrum CDMA system. Explain any one in detail. [6]
b) Compare between technical parameters of WCDMA & IS-95. [6]
c) A DSSS system has a 15 Mcps code rate and a 4.8 kbps information data rate. If the spreading code generation rate is increased to 50 Mcps, how much improvement in the processing gain of this DSSS system will be achieved? [6]

OR

- Q8) a)** Draw & explain the basic receiver structure for DS-CDMA. [9]
b) Give the classification of logical channels in IS-95 & explain sync channel. [9]

EEE