Total No. of Questions :8]

SEAT No. :

P3988

[Total No. of Pages :2

[4959]-1092
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