Total No. of Questions : 10]

SEAT No. : ____

P2275

[Total No. of Pages : 2

[5254]-612
B.E. (E & TC)
MOBILE COMMUNICATION
(2012 Pattern) (Semester - II)

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, Q.9 or Q.10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Use of logarithmic tables side rule, mollier, charts, electronic pocket calculator and steam tables is allowed.***
5) ***Assume suitable data if necessary.***

Q1) a) State and explain switching functions of a switching system. **[5]**

b) Explain with a neat diagram the concept of cell splitting and cell sectoring. **[5]**

OR

Q2) a) Define and explain the terms "Availability" and "Unavailability" of a dual processor system with necessary equations. Calculate unavailability of a dual processor system for a period of 25 years if its MTBF = 3300 Hrs. and MTTR = 6 Hrs. **[5]**

b) Discuss basic propagation mechanisms, Reflection and Diffraction in wireless communication. **[5]**

Q3) a) Derive second Erlang distribution formula of a Queuing system. **[5]**

b) With a neat diagram explain the principle of Grading and state different types of Gradings. **[5]**

OR

Q4) a) Differentiate between single-stage and Multi-stage switching networks. **[5]**

b) With neat diagrams explain In-band and out-band signaling. **[5]**

Q5) a) With a neat diagram, explain the AMPS Radio interface. **[8]**

b) Explain with a neat block diagram the architecture of GSM. **[8]**

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OR

Q6) a) With reference to AMPS, explain the call processing steps for : **[8]**

i) Mobile originated call

ii) Mobile terminated call.

b) Explain the classification of logical channels in GSM and describe each GSM logical channel in brief. **[8]**

Q7) a) With a neat block diagram, explain the GSM full-rate RPE-LTP speech decoder. **[8]**

b) Write a note on the various data services offered by GSM system. **[8]**

OR

Q8) a) Explain with a neat diagram the architecture of HSCSD. **[8]**

b) Explain in brief GMSK modulation. Highlight its advantages over the other modulation schemes. **[8]**

Q9) a) Explain various power control mechanisms used in IS-95 systems. **[9]**

b) With a neat diagram explain the operation of a Rake Receiver. **[9]**

OR

Q10)a) With a neat diagram, explain the downlink transmission in IS-95. **[9]**

b) Explain in brief 3G mobile systems W-CDMA and cdma - 2000. **[9]**

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