

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]

P.T.O.

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]

