

Total No. of Questions : 6]

SEAT No. :

P400

[Total No. of Pages : 2

B.E./Insem./APR-55

B.E. (Electronics & Telecommunication) (Semester - II)

MOBILE COMMUNICATION

(2012 Pattern)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right indicate full marks.*
- 4) Use of electronic pocket calculator is allowed.*
- 5) Assume suitable data, if necessary.*

Q1) a) State and explain switching functions of switching system. **[6]**

b) During the busy hour a group of trunks is offered 100 calls having an average duration of 3 minutes. One of the calls fails to find a disengaged trunk. Find, **[4]**

- i) Traffic offered.
- ii) Traffic carried.
- iii) Traffic lost.
- iv) Grade of service.

OR

Q2) a) Explain in detail, message switching and circuit switching. **[6]**

b) Define the following terms : **[4]**

- i) Grade of Service.
- ii) Holding Time.
- iii) Call completion rate.
- iv) Congestion.

P.T.O.

- Q3)** a) What is mean by grading? Explain in detail progressive grading and homogeneous grading. [5]
- b) Design a two stage switching network for connecting 100 incoming trunks to 100 outgoing trunks. [5]

OR

- Q4)** a) What is mean by common channel signaling? Explain the advantages of common channel signaling. [6]
- b) Calculate the unavailability of single and dual processor system with MTBF = 2200 HRS. and MTTR = 6 HRS. in 20 years. [4]
- Q5)** a) Explain the different channel assignment strategies used in cellular networks. [6]
- b) For given path loss exponent $n = 4$ and frequency reuse factor of $N = 7$ calculate S/I ratio in a cellular system. [4]

OR

- Q6)** a) Compare TDMA, FDMA and CDMA access techniques. [6]
- b) A spectrum of 30 MHz is allocated to a wireless FDD cellular system which uses two 25KHz simplex channels to provide full duplex voice and control channels compute the number of channels available per cell if a system. [4]
- i) Uses for cell reuse and
- ii) Seven cell reuse

