

Total No. of Questions : 6]

SEAT No. :

P965

[Total No. of Pages : 2

APR-17/BE/Insem.-46
B.E. (E & TC)
MOBILE COMMUNICATION
(2012 Pattern) (Semester - II)

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 side indicate full marks.*
- 4) *Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 5) *Assume suitable data if necessary.*

- Q1)** a) What are different features of Manual Switching and Electronic Switching? List and explain in brief. **[5]**
- b) A group of 5 trunks is offered 2 Erlang of traffic. Find **[5]**
- i) Grade of service
 - ii) Probability that only one trunk is busy
 - iii) Probability that only one trunk is free
 - iv) Probability that at least one trunk is free

OR

- Q2)** a) Explain the assumptions used in second Erlang Distribution for Queuing systems. **[6]**
- b) Write a note on : **[4]**
- i) Traffic performance.
 - ii) Loss system in Tandem.
- Q3)** a) With help of signal exchange diagram and timing diagram explain signal exchange for local call system. **[5]**
- b) With help of framing diagram explain 8 bit 16 channels PCM signaling shared between 30 channels. **[5]**

P.T.O.

OR

- Q4)** a) Design a grading for connecting 20 trunks to switches having 10 outlets. [6]
b) State and explain the significance of reliability, availability and security in switching network? [4]

- Q5)** a) Write a note on : [5]
i) Frequency reuse & its advantages.
ii) Interference and system capacity.
b) Explain impulse response model of a multipath channel. [5]

OR

- Q6)** a) A spectrum of 30 MHz is allocated to a wireless FDD cellular system which uses two 25 KHz simplex channels to provide full duplex voice and control channel, compute the number of channels available per cell if a system uses. [5]
i) 4 cell reuse
ii) 7 cell reuse
iii) 8 cell reuse
Assume 1 MHz of spectrum is allocated to control channel. Give distribution of voice and control channels.
b) Explain the need of hand off and factors influencing hand off? [5]

