

18/5/16

Mobile Comm.

ETRX Sem VIII
Elective

QP Code : 728300

(3 Hours)

[Total Marks :80

- N.B. : (1) Question No. 1 is **compulsory**.
(2) Attempt **any three** questions out of the remaining **five** questions.

1. Answer the following:- 20
- (a) Explain the soft, softer and soft-softer handoff.
 - (b) Explain umbrella cell approach in cellular system
 - (c) Explain the services and features of GSM.
 - (d) Discuss the need for 3G cellular networks.
2. (a) Explain the UMTS network architecture in detail with interfaces. 10
(b) Explain the CDMA 2000 technologies. 10
3. (a) Explain the frame structure for GSM. 10
(b) Explain the following for GSM:
- (i) Diagonal interleaving 2
 - (ii) Ciphering 2
 - (iii) SIM 2
 - (iv) IMSI number 2
 - (v) Short Message Service (SMS) 2
4. (a) Explain the 4G LTE architecture with a neat block diagram. 10
(b) Discuss Mobile IP in detail. 10
5. (a) With a neat block diagram explain the forward traffic channel processing in COMA. 10
(b) Consider a cellular system in which the total available voice channels to handle traffic are 480. The area of each cell is 5sq.km and the total coverage area of the system is 3000 sq.km. 10
- (i) For the cluster size of 7, find the no. of channels per cell, no. of clusters, and the system capacity.
 - (ii) For the cluster size of 4, repeat the above calculations
 - (iii) Comment on the result
6. Write short notes on any **four**: 20
- (a) WSN
 - (b) GPRS
 - (c) Trunking and GOS
 - (d) Mobility and resource management in CDMA
 - (e) Erlang B and Erlang C system
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