BE - Sem-VII - Rev - Extc
MCS

QP Code : 8552 27/5/15

(3 Hours) **[Total Marks : 100**

Note:- 1. Q.No.1 is compulsory.
2. Solve any four out of remaining six question.
3. Assume suitable data where-ever necessary.

Q.1 a) Derive relationship between S/I (Signal to interference radio) and cluster N. [20]
b) Explain HSCSD network
c) Explain Cell dragging in GSM
d) Explain hard hand-off and soft hand-off

Q.2 a) Assume a receiver is located 10 kms from a 50W transmitter. [10]
The carrier frequency is 900MHz. Free space propagation is assumed, Gt=1 and Gr=2.

Find a) the power at the receiver.
b) the magnitude of the E-field at the receiver antenna.
c) the rms voltage applied to the receiver input assuming that the receiver-antenna has a purely real impedance of 50 and is matched to the receiver.

b) Explain in detail GSM network architecture. [10]

Q.3 a) What is meaning of traffic channel, signaling channel, broadcast channels & common control channel w.r.t. GSM [10]

b) Compare SDMA,TDMA, FDMA, CDMA techniques. [10]

Q4 a) Describe open loop and closed loop system of power control in a CDMA system. [10]
b) Sketch the block diagram of reverse traffic channel of IS -95. Explain function of each block. [10]

Q.5 a) How is power control applied in forward traffic channel of IS 95? [10]
b) Draw and explain GPRS architecture. [10]

Q.6 a) Discuss in detail IMT 2000 [10]
b) Explain forward link features of CDMA 2000 and also explain basic service provided by upper layers of CDMA 2000 [10]

Q.7 Write short notes on:- [20]

a) Umbrella cell approach
b) Effect of Doppler spread on fast fading and slow fading.
c) Rake receiver
d) Hand off in GSM

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RJ-Con. 10757-15.