BE-Sem-VII - EXTC-04 MCS Q.P. Code: 2327

17/12/15

(3 Hours) [Total Marks: 100

Notes:

- 1. Question no. 1 is compulsory.
- 2. Solve any four out of remaining six questions.

Solve any four out of remaining six questions. Assume suitable data if required.	
Q.1 (a) How can system capacity can be increased in cellular system.	(5)
(b) Explain GSM services and features.	(5)
(c) Explain power control sub channel in IS-95 CDMA system.	(5)
(d) Effect of Doppler spread on fast fading and slow fading.	(5)
Q.2	
(a) Discuss forward W-CDMA channels.	(10)
(b) Discuss hand-off procedure in CDPD with neat diagram.	(10)
Q.3	(1)
(a) Explain with neat diagram IS-95 forward traffic channel.	(10)
(b) Explain the Knife-edge diffraction model.	(10)
Q.4	
(a) Explain handoff and power control in 3G system.	(10)
(b) Give the 3G CDMA evolutionary path.	(5)
(c) Compare W-CDMA & CDMA2000.	(5)
Q.5	
(a) Explain factors affecting the small scale fading. Consider a transmitter	
signal of carrier frequency 1800 MHz. For a vehicle moving with 80 km/h	
received carrier frequency:	(10)
(1) If vehicle moving is moving directly towards the transmitter.(2) If vehicle moving in a direction which is 70 degree to the direction	of arrival of the
transmitted signal.	or arrivar or me
(b) Explain RAKE receive in detail.	(5)
(c) Explain umbrella cell approach.	(5)
Q.6	
(a) Derive relation between system capacity and cluster size.	(10)
(b) Explain GPKS architecture with neat diagram	(10)
Q.7 Short notes (Any two)	(20)
(1) Compare FDMA, TDMA, CDMA, SDMA.	
(2) Authentication in GSM.	
(3) Signal processing in GSM.	