Student Exam No._____

GANPAT UNIVERSITY

B. Tech. Semester: VII Electronics & Communication Engineering
Regular / Remedial Examination Nov – Dec 2015
2EC705(A) WIRELESS COMMUNICATION

Time: 3 Hours

Total Marks: 70

Instruction: Attempt **all** questions.

1. Answers to the two sections must be written in separate answer books.
2. Figures to the **right** indicate full marks.
3. Assume suitable data, if necessary.
4. Question numbers THREE and SIX are compulsory.
5. Standard terms and notations are used

SECTION-I

Que.-1	(A)	How FDD is done in GSM system? What is TDD?	7
	(B)	Find the Fraunhofer distance for an antenna with maximum dimension of one meter operating at GSM band. Calculate the path loss if antennas have unity gains each in the system.	5

OR

Que.-1	(A)	Compare small scale fading with large scale path loss.	6
	(B)	Explain three basic propagation mechanisms in wireless communication.	6

Que.-2	(A)	How frequency reuse concept is used in GSM? Is it used in IS-95?	5
	(B)	What is importance of handoff in cellular concept? Explain it in context of GSM and CDMA.	6

OR

Que.-2	(A)	Explain the concept of GOS in complete detail.	5
	(B)	Why foot print of cell is hexagonal in nature for cellular representation of GSM?	6

Que.-3	(A)	Write short note on the following (a) BPSK constellation (b) QPSK constellation (c) GMSK modulation in GSM	12

SECTION -II

Que.-4 (A) Explain GSM Architecture in full detail? What is importance of IWF?   6

(B) How signal processing is done in GSM? What is importance of ciphering keys used in signal processing?   6

OR

Que.-4 (A) How RF planning is done in GSM?   6

(B) How GSM network is implemented after RF planning   6

Que.-5 (A) Explain importance of Rake Receiver in CDMA system? What is frequency diversity?   5

(B) Explain the logic of PN sequence generation with help of diagram   3

(C) In US AMPS, 416 channels are allocated to various cellular operators. The channel between them is 30kHz with the guard band of 10 kHz. Calculate spectrum allocation given to each operator.   3

OR

Que.-5 (A) Compare Wi-Fi with Wi-MAX   5

(B) Give briefing about research areas of OFDM.   6

Que.-6 (A) Explain the concept of MIMO with the help of diagram only.   4

(B) Compare GSM with CDMA in all respect   8

End of Paper