GANPAT UNIVERSITY

B. Tech. Semester VII (EC) Examination, November/December 2012
EC 701 Wireless Communications

Max. Time: 3 Hrs.] **[Max. Marks: 70**

Instructions:

1. Attempt **all** questions.
2. Answers to the two sections must be written in separate answer books.
3. Figures to the **right** indicate full marks.
4. Assume suitable data, if necessary.
5. Question numbers three and six are compulsory.

SECTION-I

1	(A)	Write short note on basic 2 Ray model of radio wave propagation.	6
	(B)	What do you mean by Fresnel's zone? Explain in detail.	6
		OR	
1	(A)	Comment on the mathematical modeling of the wireless channel, which can take into account all possible effects observed over the channel. Can the power delay profile help in the modeling?	6
	(B)	Write a note on channel impulse responses for flat and frequency-selective fading.	4
	(C)	Define the term: Power delay profile.	2
2	(A)	Explain the following terms: i. Coherence Time iii. Coherence Bandwidth ii. Delay Spread iv. Doppler Spread.	6
	(B)	Write short note on all the variants of QPSK modulation.	5
		OR	
2	(A)	Briefly explain the diversity techniques to compensate the fading effect.	5
	(B)	Write short note on Maximum Likelihood Sequence Estimator equalizer.	4
	(C)	Draw the constellation diagram of 16 QAM.	2
3	(A)	What is the main advantage of MSK compared to FSK? How GMSK is generated from MSK?	6
	(B)	What is equalization? Explain the linear transversal equalization.	6

SECTION-II

4 (A) What do you understand by term FDD? Explain in complete detail. 4
(B) Explain various upgrade paths for 2G technologies. 8

OR

4 (A) What points to be considered for channel planning in GSM network. 8
(B) What do you meant by frequency reuse? Explain in complete detail. 4

5 Write short notes. 11
(A) Interference in cellular system.
(B) DRCU in BTS for GSM site.

OR

5 Write short notes. 11
(A) Turbo Coding.
(B) Drive test for GSM network optimization.

6 (A) What is WiLL? Is it different from WLL? 3
(B) Write the latest definition of term "mobile". 3
(C) What is frequency planning of GSM network? 3
(D) What is hybrid spread spectrum techniques? 3

END OF PAPER