

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – I • EXAMINATION – WINTER 2012****Subject code: 710601N****Date: 16-01-2013****Subject Name: Wireless and Mobile Communication****Time: 02.30 pm – 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What is cellular Concept? How it is utilized to improve the capacity of Mobile Communication System. **07**
(b) Discuss the advantages of CDMA technology. Why orthogonal codes are used in CDMA mobile? **07**
- Q.2** (a) Draw the block diagram of GSM network Architecture indicating main subsystems and its components and explain in Detail. **07**
(b) Explain Paging systems in Detail. **07**
- OR**
- (b) What is Bluetooth? Discuss Bluetooth Standard. **07**
- Q.3** (a) Explain Cell Splitting in detail. **07**
(b) Explain Channel Assignment Strategies in Detail **07**
- OR**
- Q.3** (a) What are the Interference Issues in Mobile Communication? Describe it in brief. **07**
(b) Explain Hand-off Strategies in Detail **07**
- Q.4** (a) What is small scale fading? Discuss the factors affecting small scale fading. **07**
(b) What is radio wave propagation? Explain free space propagation model. **07**
- OR**
- Q.4** (a) Explain Different propagation mechanisms in detail **07**
Q.4 (b) Explain knife Edge Diffraction model in detail. **07**
- Q.5** (a) Describe the factors which influence the choices of Modulation techniques. **07**
(b) What is MSK? How one achieves GMSK? Explain why GMSK is used in GSM. **07**
- OR**
- Q.5** (a) What is spread spectrum modulation technique? Explain Direct sequence spread spectrum **07**
(b) Explain in detail the Authentication and Encryption process in GSM. **07**
