

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME – SEMESTER – I (New)– EXAMINATION – WINTER-2019**

**Subject Code: 3710508****Date: 02-01-2020****Subject Name: Wireless and Mobile Communication****Time: 02:30 PM TO 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) Define any Seven: Mobile Station, Base station, Mobile Switching Center, Subscriber, Control Channel, Forward Channel, Reverse Channel, Handoff, Roamer, Page **07**
- (b) For a regular hexagonal geometry show that co-channel reuse ratio is  $Q = \sqrt{3N}$ , where  $N = i^2 + ij + j^2$ . **07**
- Q.2** (a) Briefly describe Hand-off strategies in cellular system. **07**
- (b) Explain Fading Effects due to multipath time delay spread. **07**
- OR**
- (b) Briefly explain different channel assignment strategies. **07**
- Q.3** (a) Explain fading effects due to the doppler Spread. **07**
- (b) Explain Rayleigh and Rician distribution. **07**
- OR**
- Q.3** (a) Explain adaptive equalizer in detail. **07**
- (b) Write Short note on: RAKE Receiver, **07**
- Q.4** (a) Explain Interleaving in detail **07**
- (b) Write a short note on MIMO. **07**
- OR**
- Q.4** (a) Explain Vehicular to Vehicular Communication and wireless sensor networks in detail. **07**
- (b) Write a short note on OFDM. **07**
- Q.5** (a) Write Short note on: Routing algorithms – Proactive, Reactive and Hybrid Routing Protocols. **07**
- (b) Ad-hoc wireless network-features and Challenges. **07**
- OR**
- Q.5** (a) Write Short note on: Security issues and QoS in wireless networks **07**
- (b) Explain WCDMA and Wi-MAX in detail. **07**

\*\*\*\*\*