

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VII (OLD) EXAMINATION – WINTER 2020****Subject Code:171004****Date:30/01/2021****Subject Name:Wireless Communication****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define the following terms: **08**
1) Forward and Reverse Channels 2) Hand over
3) Cell Dragging 4) Frequency Reuse
- (b) Explain following wireless network standard in brief. **06**
WLAN and Bluetooth
- Q.2** (a) What is Co-channel Interference? Why does it affect performance of cellular systems? Derive necessary formula to justify the above statement. **07**
- (b) Discuss Trunking and Grade of Services for wireless communications. **07**
- Q.3** (a) What is the basic difference between Large and Small Scale Propagation Model. Derive and explain Two Ray Model in details. **08**
- (b) Discuss various propagation mechanism for large scale propagation model in brief. **06**
- Q.4** (a) What is large scale and small scale fading? Discuss Rayleigh and Rician distributions in brief. **07**
- (b) Discuss in detail about Impulse Response of Multipath channel in detail. **07**
- Q.5** (a) Differentiate and tabulate various multiple access techniques and list out the benefits of TDMA. **07**
- (b) Discuss reference architecture of GSM in detail and explain role of each registers of it. **07**
- Q.6** (a) What is CSMA? Describe different CSMA and explain all of them in brief. **07**
- (b) Explain the process of Encryption and Authentication in GSM. **07**
- Q.7** (a) Draw and discuss Forward Channel for IS-95 CDMA. **07**
- (b) Write a short note on Wi-Fi and Wi-Max **07**
- Q.8** (a) What is RAKE receiver? Why is it useful in IS -95 CDMA? Discuss in detail. **07**
- (b) Write a short note on SDR and UWB radio. **07**
