

GUJARAT TECHNOLOGICAL UNIVERSITY**ME – SEMESTER –I-(New) EXAMINATION – SUMMER 2019****Subject Code: 3712311****Date: 13/05/2019****Subject Name: Advanced Wireless and Mobile Networks****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) Explain different communication challenges of wireless networks. **07**
 (b) What is multiplexing? Explain frequency division and code division multiplexing techniques used in wireless networks. **07**
- Q.2** (a) i. What is multipath propagation? Explain its effects on wireless communication. **04**
 ii. Explain Amplitude Shift Keying and Frequency Shift Keying in brief. **03**
 (b) Explain data transmission between master and slave in case of Bluetooth with synchronous connection oriented link and asynchronous connectionless link? **07**
- OR**
- (b) Explain different components and interface of the traditional Wireless Application Protocol in brief with diagram. **07**
- Q.3** (a) Explain Subnetwork Dependent Convergence Protocol and Base Station Subsystem Protocol with respect to GPRS. **07**
 (b) Write a short note on spread spectrum. Explain FHSS with suitable example. **07**
- OR**
- Q.3** (a) What are the reasons for handover? Explain four possible handover scenarios in GSM in brief? **07**
 (b) Explain system and protocol architecture of 802.11 wireless LAN. **07**
- Q.4** (a) Why tunneling is required in Mobile IP? Explain IP-in-IP encapsulation with packet format. **07**
 (b) Explain Indirect TCP with advantages and disadvantage. **07**
- OR**
- Q.4** (a) i. What are the differences between WiFi and WiMAX? **03**
 ii. Explain fast transmit/fast recovery? Write advantage and disadvantage. **04**
 (b) Describe the features provided by wireless datagram protocol and wireless session protocol. **07**
- Q.5** (a) Explain route establishment of AODV protocol with suitable example. **07**
 (b) Explain different types of attacks possible on wireless networks. List out and explain different security services for the same. **07**
- OR**
- Q.5** (a) i. Explain the purpose of sequence numbers and damping in destination sequence distance vector routing protocol. **03**
 ii. Why performance of Traditional TCP degrades with wireless communication? **04**
 (b) Explain different network elements of GPRS architecture. **07**
