

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME – SEMESTER I (OLD) – • EXAMINATION – SUMMER 2016**

**Subject Code: 710206N****Date: 21/05/2016****Subject Name: Wireless Computer 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) Describe challenges of designing routing protocols for AdHoc network. **07**  
(b) Explain following term with respect to wireless networks: **07**  
(i) Diffraction (ii) Scattering (iii) frequency hopping  
(iv) Co-channel interference (v) handoff
- Q.2** (a) Compare GSM and CDMA standards in detail. **07**  
(b) Explain system architecture and handoff management techniques of GPRS. **07**
- OR**
- (b) Explain GSM protocol architecture. **07**
- Q.3** (a) Explain Pure ALOHA, Slotted ALOHA, CSMA / CA and RTS/CTS protocols. **07**  
(b) List and briefly explain all security threats in wireless networks. **07**
- OR**
- Q.3** (a) What is wireless network topology? Explain centralized topology and distributed topology. **07**  
(b) Briefly explain: 1G, 2G, 2.5G and 3G. **07**
- Q.4** (a) Write a short note on Direct Sequence Spread Spectrum and Frequency hopping Spread Spectrum Techniques. **07**  
(b) In the context of IS-95, what are soft, softer and soft-softer handoffs? Also discuss the open loop and close loop power control in IS-95. **07**
- OR**
- Q.4** (a) Explain mobility management in wireless networks **07**  
(b) What you understand by Fixed, Dynamic and Hybrid Channel allocation schemes? Explain each case in detail. **07**
- Q.5** (a) What is Bluetooth? Describe protocol stack of Bluetooth **07**  
(b) Explain the following Access Methods for Wireless LANs: **07**  
(I) CSMA CA as adopted by 802.11  
(II) RTS/CTS supported by 802.11.
- OR**
- Q.5** (a) Explain Registration and Handoff in case of 802.11. What do you understand by “solicited beacon” in the context of Handoff under 802.11? **07**  
(b) Explain the following: **07**  
(I) WIMAX  
(II) Wireless Geo-location System.

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