

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE –SEMESTER-7 (NEW)- EXAMINATION- SUMMER 2018**

**Subject Code: 2170710****Date: 03-05-2018****Subject Name: Mobile Computing and Wireless 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) Compare the LAN and WAN. **03**  
(b) Define the term Multiplexing. Explain the FDM and TDM with one example each. **04**  
(c) Explain the Nyquist Theorem. Find the relationship among the following terms: Channel Capacity(C), Bandwidth(B) and Signal-to-Noise Ratio(SNR). **07**
- Q.2** (a) Explain the Transmission Media. **03**  
(b) Differentiate the GSM and GPRS. **04**  
(c) Describe the Switching Techniques. Differentiate the Circuit Switching and Packet Switching. **07**
- OR**
- (c) Explain the term Fading and its types in the Mobile Environment in detail. **07**
- Q.3** (a) Describe the TCP/IP Protocol Architecture. **03**  
(b) Describe the Error Control Coding in detail. **04**  
(c) Explain the 1G, 2G, 2.5G and 3G Mobile Communications. **07**
- OR**
- Q.3** (a) Explain how the Mobile IP works. **03**  
(b) What are HLR and VLR? Describe its functions in Call Routing and Roaming. **04**  
(c) Define the Frequency Hopping in Spread Spectrum? Write a note on TDMA, FDMA and CDMA. **07**
- Q.4** (a) Explain the PLMN Interface. **03**  
(b) Enlist and Explain the different Modulation Techniques in the signal theory. **04**  
(c) Explain in detail the Direct Sequence Spread Spectrum (DSSS). **07**
- OR**
- Q.4** (a) Differentiate the Wimax and WiFi. **03**  
(b) Explain the Handover, Authentication and Security in GSM. **04**  
(c) Draw and explain the Bluetooth Protocol Architecture. **07**
- Q.5** (a) Explain the Wireless Session Protocol Primitives and Parameters. **03**  
(b) Explain the IEEE 802.11 Architecture with the neat diagram. **04**  
(c) Explain the GPRS Transmission Protocol Stack with the neat diagram. **07**
- OR**
- Q.5** (a) Explain the WAP Stack with neat diagram. **03**  
(b) Explain the Android Architecture with the neat diagram. **04**  
(c) Define the Android Layout. Explain the various Android Layouts. **07**

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