

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER- VIII EXAMINATION – SUMMER 2020****Subject Code: 2170710****Date: 28/10/2020****Subject Name: MOBILE COMPUTING AND WIRELESS COMMUNICATION****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		<b>MARKS</b>
<b>Q.1</b>	(a) Explain any three addresses and identifiers used in GSM with example.	<b>03</b>
	(b) Explain Android EditText and TextView control with an example.	<b>04</b>
	(c) Draw and explain the GPRS transmission plane protocol model.	<b>07</b>
<b>Q.2</b>	(a) Given a channel with an intended capacity of 50 Mbps, the bandwidth of the channel is 5 MHz. What signal-to-noise ratio is required to achieve this capacity?	<b>03</b>
	(b) Discuss the manifest file with example.	<b>04</b>
	(c) What is wave propagation? Discuss various modes of propagation with example.	<b>07</b>
	<b>OR</b>	
	(c) Explain frequency hopping spread spectrum.	<b>07</b>
<b>Q.3</b>	(a) What is Direct Sequence Spread Spectrum technology?	<b>03</b>
	(b) Explain any two various signal multiplexing techniques.	<b>04</b>
	(c) Draw and explain Bluetooth protocol stack.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain L2CAP protocol of Bluetooth.	<b>03</b>
	(b) How DSSS does works in CDMA technology?	<b>04</b>
	(c) Draw and explain the IEEE 802.11 architecture in detail.	<b>07</b>
<b>Q.4</b>	(a) Define spreading sequence.	<b>03</b>
	(b) List different categories of spreading sequences. Explain Walsh code with example.	<b>04</b>
	(c) Discuss Mobile IP.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Define channel capacity. Write Shannon capacity formula.	<b>03</b>
	(b) State the key factors that affect channel capacity.	<b>04</b>
	(c) Explain GSM architecture.	<b>07</b>
<b>Q.5</b>	(a) What is the need of ARQ?	<b>03</b>
	(b) Explain Automatic Repeat Request (ARQ) in details.	<b>04</b>
	(c) List all and explain any five IEEE 802.11 services.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Explain piconet and scatternet.	<b>03</b>
	(b) Write a note on DECT frame format.	<b>04</b>
	(c) Define Android layout. Explain various Android layouts.	<b>07</b>

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