

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2021****Subject Code:3170710****Date:15/12/2021****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.
4. Simple and non-programmable scientific calculators are allowed.

		<b>MARKS</b>
<b>Q.1</b>	(a) Explain any three addresses and identifiers used in GSM with example.	<b>03</b>
	(b) Differentiate packet switching and circuit switching.	<b>04</b>
	(c) Explain Mobile IP.	<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-tonoise ratio is required to achieve this capacity?	<b>03</b>
	(b) Write a short note on selective repeat ARQ.	<b>04</b>
	(c) Write a note on stop-and-wait and selective repeat ARQ.	<b>07</b>
	<b>OR</b>	
	(c) Explain various signal multiplexing techniques	<b>07</b>
<b>Q.3</b>	(a) Explain L2CAP protocol of Bluetooth.	<b>03</b>
	(b) Explain handover process in cellular system.	<b>04</b>
	(c) Explain DFWMAC-DCF using CSMA/CA	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Differentiate infrastructure and ad-hoc network.	<b>03</b>
	(b) What is Handover? Explain types of it in brief	<b>04</b>
	(c) Explain IEEE 802.11 architecture and its services.	<b>07</b>
<b>Q.4</b>	(a) Define ASK, FSK & PSK.	<b>03</b>
	(b) What are HLR and VLR? Describe its functions in call routing and roaming.	<b>04</b>
	(c) State the applications of Bluetooth and differentiate between Piconet and Scatternet with neat diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Compare Paging and Location update in GSM.	<b>03</b>
	(b) Differentiate Amplitude, Frequency and Phase Shift Keying in Digital Modulation with proper diagram.	<b>04</b>
	(c) Explain in detail the Direct Sequence Spread Spectrum (DSSS).	<b>07</b>
<b>Q.5</b>	(a) Explain the power saving states of Bluetooth device.	<b>03</b>
	(b) Explain the IEEE 802.11 Architecture with the neat diagram.	<b>04</b>
	(c) Enlist & explain common layouts available in android.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Explain types of Intents.	<b>03</b>
	(b) Write a note on DECT frame format.	<b>04</b>
	(c) Define the Android Layout. Explain the various Android Layouts.	<b>07</b>

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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:3170710****Date:08/06/2022****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.
4. Simple and non-programmable scientific calculators are allowed.

		<b>MARKS</b>
<b>Q.1</b>	(a) Enlist various multiplexing techniques and explain any one.	<b>03</b>
	(b) Compare Packet switching and Circuit Switching.	<b>04</b>
	(c) Define channel capacity and various factors which affect it. State Nyquist and Shannon criteria.	<b>07</b>
<b>Q.2</b>	(a) Define Scattering, Refraction and Reflection.	<b>03</b>
	(b) Describe Hamming code in brief.	<b>04</b>
	(c) Explain Direct Sequence Spread Spectrum with example.	<b>07</b>
	<b>OR</b>	
	(c) Explain Frequency Hopping Spread Spectrum.	<b>07</b>
<b>Q.3</b>	(a) Enlist types of Antenna and Explain any one of them.	<b>03</b>
	(b) Describe CRC in brief.	<b>04</b>
	(c) Compare 1G,2G,3G and 4G technology.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain Piconet and Scatternet.	<b>03</b>
	(b) Describe WAP in brief.	<b>04</b>
	(c) Describe Multiple Access with Collision Avoidance and explain how hidden terminal problem can be solved by it.	<b>07</b>
<b>Q.4</b>	(a) Define IMSI,MSISDN and LMSI.	<b>03</b>
	(b) Draw GPRS protocol stack and write the functions of GTP,LLC protocols.	<b>04</b>
	(c) Draw and describe GSM Architecture.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Define TMSI,LAI and IMEI.	<b>03</b>
	(b) Enlist types of Handover and explain any one.	<b>04</b>
	(c) Write short note on Mobile IP.	<b>07</b>
<b>Q.5</b>	(a) Discuss type of Intents.	<b>03</b>
	(b) Compare Wi fi and Wi Max	<b>04</b>
	(c) Draw and explain Android Architecture.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Compare HLR and VLR.	<b>03</b>
	(b) Draw and describe Bluetooth protocol architecture in brief.	<b>04</b>
	(c) Enlist various Android layouts and explain them.	<b>07</b>

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