

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023

Subject Code:2170710

Date:16-12-2023

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.

MARKS

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|------------|---|-----------|
| Q.1 | (a) Compare LAN and WAN | 03 |
| | (b) What is Shannon's capacity formula for noisy channel? | 04 |
| | (c) Explain the Nyquist theorem. Define following terms (1) channel capacity (2) Bandwidth (3) Signal to noise ratio. | 07 |
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| Q.2 | (a) Explain in detail the Direct sequence spread Spectrum (DSSS) | 03 |
| | (b) List and explain type of antennas in wireless network with their applications | 04 |
| | (c) Define Reflection, Refraction, and diffraction | 07 |
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| OR | | |
| | (c) What is wave propagation? Discuss various modes of propagation with example. | 07 |
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| Q.3 | (a) "Frequency reuse in cellular systems" Comment on the statement. | 03 |
| | (b) What are HLR and VLR | 04 |
| | (c) List all and explain any five IEEE 802.11 services | 07 |
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| OR | | |
| Q.3 | (a) Differentiate the WiMAX and Wi-Fi | 03 |
| | (b) Discuss briefly: Limitations of GPRS | 04 |
| | (c) Discuss GSM architecture in detail | 07 |
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| Q.4 | (a) Explain Android TextView control with an example | 03 |
| | (b) Define Android layouts and enlist various types of it. | 04 |
| | (c) Explain Android architecture with diagram | 07 |
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| OR | | |
| Q.4 | (a) Explain Android ButtonView control with an example | 03 |
| | (b) What is the purpose of Android Manifest file? | 04 |
| | (c) Discuss Activity life cycle in Android | 07 |
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| Q.5 | (a) Explain power saving states of Bluetooth device | 03 |
| | (b) Explain piconet and scatternet | 04 |
| | (c) What is switching techniques? Explain any one in detail. | 07 |

OR

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| Q.5 | (a) | Explain types of Intents | 03 |
| | (b) | Explain L2CAP protocol of Bluetooth | 04 |
| | (c) | What is the purpose behind multiplexing. Explain anyone multiplexing schemes in depth. | 07 |

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