



SIMATS

Saveetha Institute of Medical And Technical Sciences
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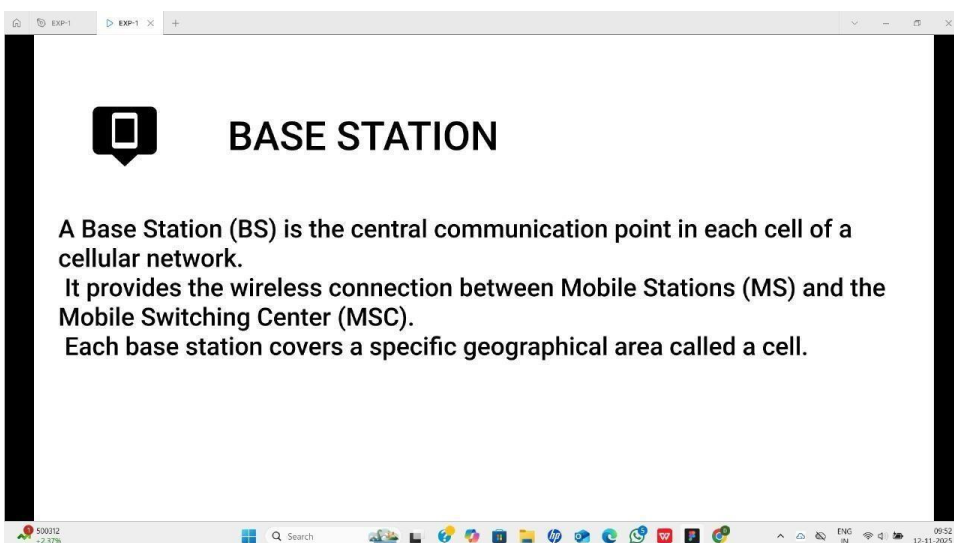
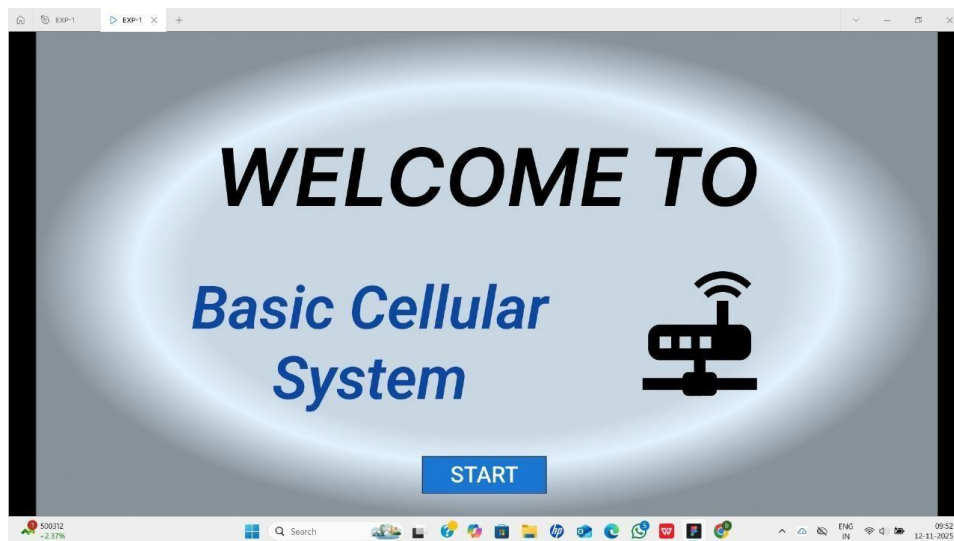
ENGINEERING

Course Name: Mobile Computing for Modern App Development

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Course Code: CSA0306

Q: BASIC CELLULAR SYSTEM



BASIC CELLULAR SYSTEM

A basic cellular system is a network architecture used in mobile communication systems that divides a geographic area into smaller regions called cells. Each cell is served by its own Base Station (BS), which communicates with Mobile Stations (MS) (like smartphones) using radio frequencies.

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graph LR; MS[MOBILE STATION] <--> BS[BASE STATION]; BS <--> MSC[MSC]
```

The diagram illustrates the basic cellular system architecture. It consists of three main components: a Mobile Station (MS), a Base Station (BS), and a Mobile Switching Center (MSC). The Mobile Station is represented by a smartphone icon, the Base Station by a tower icon, and the MSC by a person icon. Bidirectional arrows connect the Mobile Station to the Base Station, and the Base Station to the MSC, indicating two-way communication.

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MOBILE STATION

Main Components:

1. **Mobile Equipment (ME):**
 - The actual hardware (like a smartphone or tablet).
 - Handles voice calls, SMS, data transmission, and radio signal processing.
2. **Subscriber Identity Module (SIM):**
 - A small chip that stores the user's unique International Mobile Subscriber Identity (IMSI) and authentication key.
 - Identifies and authenticates the user to the network.
3. **Software/Operating System:**
 - Manages user interfaces, applications, and communication protocols.
 - Ensures coordination between hardware and the network.

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