**Case Study Assignment: Exploring Field Test Mode on Smartphones**

**Objective:**

The goal of this case study is for students to explore and understand key networking information available on their own smartphones. By using the Field Test Mode or other diagnostic tools on Android, iPhone, or Samsung devices, students will learn how to gather technical details about their phone’s network settings and performance.

**Instructions:**

1. **Device Types Covered:**

○ **Android Devices (General)**

2. **Key Information to Collect:**

○ **IMEI Number** (International Mobile Equipment Identity)

A unique identifier assigned to mobile devices,particularly Gsm and wcdma phones.

○ **MAC Address** (Media Access Control address)   
A unique identifier assigned to network interfaces for communications on the physical network segment.

○ **IP Address** (Internet Protocol address)

A numerical label assigned to each device connected to a computer network that uses the internet protocol for communication.

○ **Network Operator/Brand** (Airtel) : Network operators and brands play a crucial role in the telecommunications landscape. A mobile network operator (MNO) offers services like voice calls, messaging, and data transfer through their network, earning revenue by charging customers.

○ **Network Type** (4G) :4G is the fourth generation of mobile telecommunications technology, succeeding 3G and preceding 5G. It represents a significant advancement in mobile network capabilities, offering faster data transfer rates, improved network reliability, and enhanced user experiences.

○ **Signal Strength** (Measured in dBm) : Signal strength is a critical factor in determining the quality of a mobile network connection. It refers to the power level of the radio signal received by a mobile device from a cell tower.

○ **Download/Upload Bandwidth** (Physical channel configuration and speed) :

Bandwidth refers to the maximum rate of data transfer across a network path and is a critical factor in determining the performance of mobile networks. It is typically measured in megabits per second (Mbps) and can vary based on several factors, including physical channel configuration, network technology, and environmental conditions.

**Mobile Location Information** (LAC - Location Area Code and CID - Cell ID)

3. **Steps to Access Field Test Mode:**

○ **For Android Devices:**

■ Open the phone dialer and enter **\*#\*#4636#\*#\*** to access the testing menu.

■ Navigate to **Phone Information** and **Wi-Fi Information** for relevant

details.

■ Take screenshots of IMEI, signal strength, network type, etc.

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