**CASE STUDY ROLL NO RA2211026050026**

**Analysis of Device Categories and Acquisition of Network Parameters**

**1. Types of Devices Included:**

* Android - OnePlus

**2. Data Collected:**

Understanding and collecting the following parameters will be important in identifying and diagnosing problems related to mobile networks:

* International Mobile Equipment Identity (IMEI) Number:
* Unique identifier given to each mobile phone 15 digit in length Its importance is in tracing or locking the mobile if stolen.
* IMEI Number :866448054784099
* MAC Address, Media Access Control Address:
* A unique hardware identifier for network interfaces in Wi-Fi communications.
* MAC Address: d0:49:7c:9a:22:f8
* Internet Protocol Address (IP Address):
* The address assigned to a device connected to the internet, which is useful in identifying or identifying network activities.
* IP Address: 2409:40f4:10f7:faf6:8000::
* Service Provider/Brand:
* That is the cellular service provider, for example, AT&T, Verizon. Knowing the operator can sometimes be useful in solving network-specific problems.
* Airtel
* Network Type :
* Says what generation and type of network a device is connected to: 5G is much faster, older varieties, such as 4G, may be slower.
* 5G
* Signal Strength (Quantified in dBm):
* Shows the strength of the network signal, typically between -30 dBm (excellent) and -110 dBm (poor).
* Signal Strength : -93DBM
* Download/Upload Bandwidth:
* These values determine the rate of uploading or downloading data over the internet, and therefore signify a network's performance.
* Bandwidth: 20MHz
* Mobile Location Information (LAC and CID):
* The Location Area Code (LAC) and Cell ID (CID) serve to pinpoint the position of the associated cell tower, which is beneficial for monitoring the geographical reach of the network.
* Mobile Location Information :55357

**3. Setup Entering Field Test Mode Procedure:**

The access to the ”Field Test Mode” is device-specific, but the idea is to access the main network diagnostics

* About iPhone Devices:

Steps taken:

1. Input \*#\*#4636#\*#\* and dial Call to access \*Field Test Mode\*. This code is not executed in OnePlus because of security reasons.

2. Informations on signal strength, network operator and cell ID can be found in " Phone Status ”

3. Take pictures of the essential network parameters and then preserve them.

4. Precise Meaning of Key Parameters

**Screenshots Requirement:**

Field Test Mode:

Not Available.



Screenshot of the Status :

