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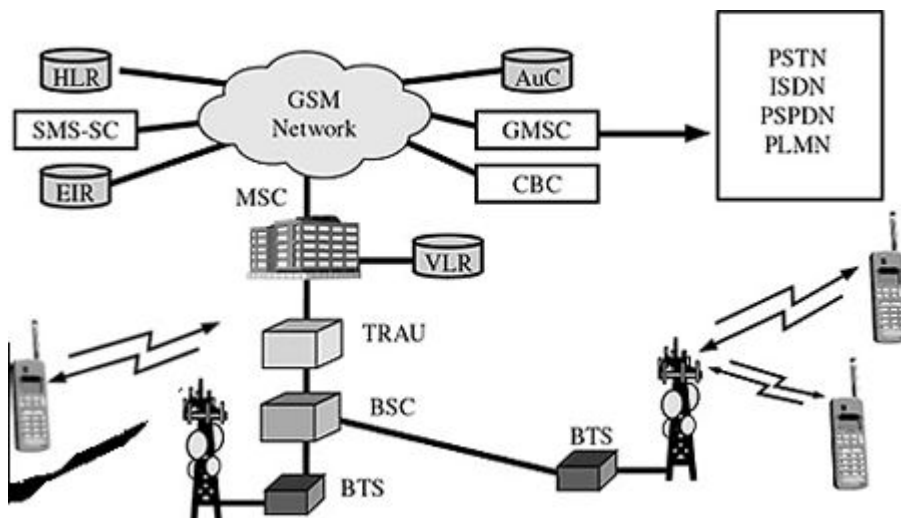
Subject: MCWN

### Practical-1

#### Study of evaluation of mobile generation.(2G,3G,4G,5G)

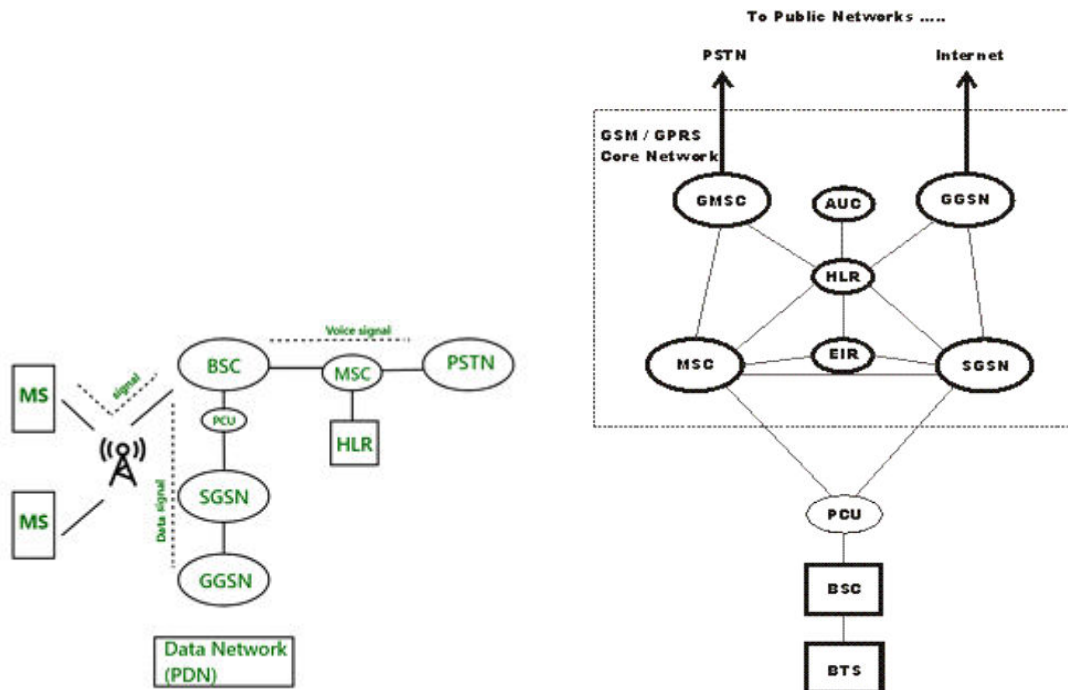
##### 2G wireless mobile network

- In 1992, the 2G wireless mobile network was born using Digital signals to replace Analog. 2G network has many advantages compared to 1G network such as being able to send SMS messages, data transmission speed has increased to 64Kbps.
- Supports the use of multiple people on the same frequency band, making information more secure because all calls are encrypted.
- 2G was the first mobile network technology to support international roaming and provided better network coverage than 1G.
- The advent of 2G networks standardized frequency bands, allowing mobile devices to operate on both the 900 MHz and 1800 MHz bands. This means users can switch between carriers without changing devices or SIM cards, as long as the new carrier also supports the same frequency bands.



### 3G wireless mobile network

- 3G network is considered a data revolution because it shows the remarkable progress of mobile network technology in the world. In 2001, 3G network was introduced to the world and officially commercialized in 2003.
- 3G network with data rate of 144 Kbps for mobile users, 384 Kbps was achieved for walking users and 2 Mbps for mobile users. successful home users.
- 3G network with broadband, sending and receiving large emails easily; Watch videos and chat online securely without interruption.



EDGE Architecture  
GPRS Architecture

### 4G wireless mobile network

- 4G network can be said to be a mobile network that is popularizing very quickly and is extremely popular with users. Launched in 2013, after 10 years the 3G network has become reliable, so the

4G network quickly became popular and almost all mobile devices registered to use the 4G network.

- 4G network has many outstanding features such as extremely fast access speed that can be 20 times higher than 3G and can reach 1.2 Gbps.
- 4G networks allow downloading large files and streaming high-quality videos without interruption on mobile devices.
- 4G networks operate on the 700 MHz, 1800 MHz and 2600 MHz frequency bands with better coverage and can improve call quality, allowing the development of many new services such as mobile payments, video conferencing. Cloud-based gaming and visualization

### **5G wireless mobile network**

- 5G is the 5th mobile network launched since 2020 and is quickly accepted and deployed by many countries around the world for a new technological advancement.
- 5G network Can access strong internet without slowness or interruption. In addition, 5G technology will create a modern society when it is applied to self-driving car and virtual reality technologies
- 5G can provide speeds of up to 10 Gbps, which is up to 100 times faster than the average home broadband connection. This means that users can enjoy high-quality streaming services without any buffering or lag.
- It also offers low latency, which is important for applications such as gaming and virtual reality.