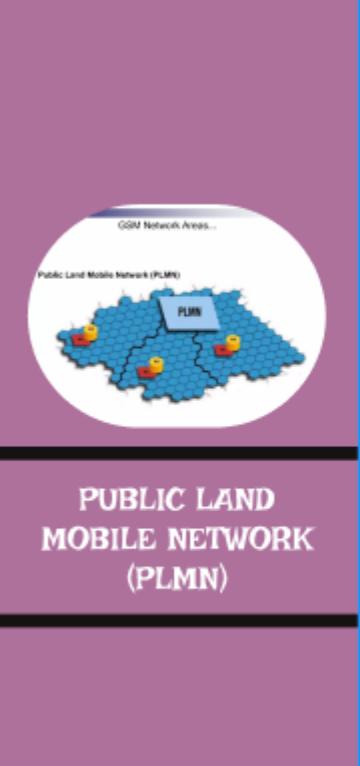


PLMN- PUBLIC LAND MOBILE NETWORK



PUBLIC LAND MOBILE NETWORK (PLMN)

WHAT IS PLMN ?

A PLMN is the wireless communication network provided by a mobile operator. It includes all components needed to deliver voice, data, SMS, and roaming services.

COMPONENTS OF PLMN

- 1. Mobile Station (MS)**
The user's device along with the SIM card.
It communicates with nearby network towers for calls and data.
- 2. Base Transceiver Station (BTS)**
The cellular tower that sends and receives radio signals.
It provides wireless coverage to mobile users in that area.
- 3. Base Station Controller (BSC)**
Controls and manages multiple BTS towers.
Handles handovers, frequency allocation, and radio resources.
- 4. Mobile Switching Center (MSC)**
The central switching unit of the mobile network.
It connects calls, routes SMS, and manages mobility functions.
- 5. Home Location Register (HLR)**
A permanent database storing subscriber and SIM details.
It keeps track of authentication info, services, and user's home network.
- 6. Visitor Location Register (VLR)**
Temporary database for users roaming in another area.
It stores location and service permissions of visiting subscribers.
- 7. Authentication Center (AUC)**
Provides security keys for SIM verification.
Ensures secure communication and prevents unauthorized access.
- 8. Equipment Identity Register (EIR)**
Database containing IMEI status of all devices.
It blocks stolen, blacklisted, or unauthorized mobile phones.
- 9. Gateway MSC (GMSC)**
Acts as the connection point to external networks like PSTN.
It routes incoming calls to the correct MSC inside the PLMN.
- 10. SGSN (Serving GPRS Support Node)**
Handles mobile data sessions and user authentication.
Manages packet delivery, mobility, and QoS for data users.
- 11. GGSN / PGW (Gateway GPRS Support Node / Packet Gateway)**
Connects the mobile network to the internet.
Provides IP addresses and handles data routing to online services.
- 12. OSS (Operations Support System)**
Used by operators to monitor, manage, and optimize the network.
Ensures smooth operation, fault detection, and performance analysis.

THE END....