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Q1: Explain the principles of simple network management protocol (SNMP)

Answer: SNMP is widely used in network management. For network monitoring, SNMP exposes management data in the form of variables on the managed system organized in a management information base (MIB) which describe the system status and configuration.

Q2: name the features of common management information service (CMIS). Explain the service associated with (CMIS).

Ans: It provides an implementation for the service defined by the common management information service (CMIS) specified in ITU-T recommendation X-710. ISO/IEC international standard 9595 allowing communication between network management application agents.



## \* Services Associated with CMIS

- The common management information service interface specified in ITU-T Recommendation X it defines the service interface that is implemented by the common management information protocol CMIP as specified in ITU-T Recommendation:.

Q3: Briefly Explain the main element of a core network?

Ans: The major element within the core network include mobile service, switching center (MSC) The main element within the core network area of the overall GSM network architecture is (MSC)

Q.5

ENTERPRISE WAN :-

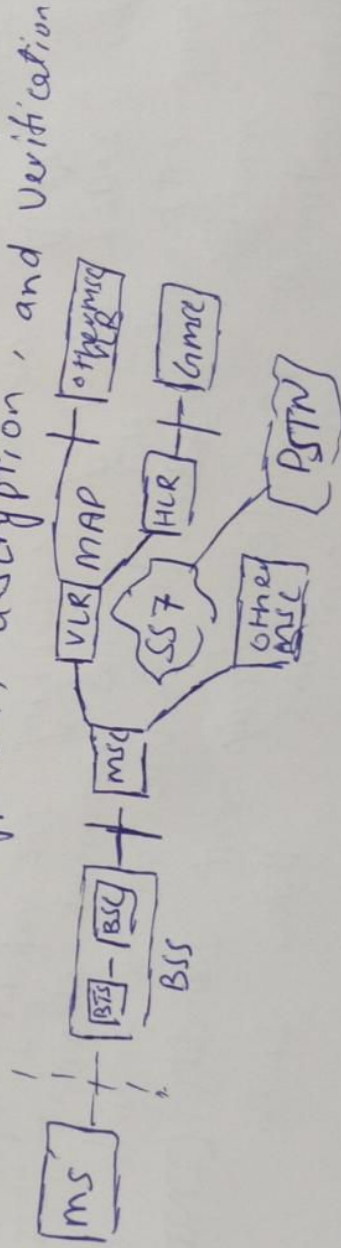
\* The distinction is that enterprise WAN services were designed primarily to connect a given enterprise branch offices and data centres while the internet provide connectivity to a huge range of resources with myriad owner.



Q4What is PLMN?

A Public Land Mobile Network (PLMN) is any wireless communication system intended for use by terrestrial subscriber in vehicle or on foot.

→ A PLMN require special security measure because a wireless system is inherently more susceptible to eavesdropping an unauthorized used than a hard wired system smart card containing user data encryption, decryption, and verification



Q3

What does CORE Network &

- ★ A CORE Network is a Telecommunication network Core Part, which offers numerous services to the customers who are interconnected by the access Network. its key function to direct Telephone call over the public switch Telephone Network

## Describe Network Element in PLMN

The

### \* HOME LOCATION REGISTER (HLR)

\* The HLR maintains a permanent register of the subscribers. For instance the subscriber identity numbers and the subscribed services can be found here. In addition to the fixed data the HLR also keeps track of the current.

### \* AUTHENTICATION CENTRE (AC)

The authentication centre provides security information to the network, so that we can verify the sim cards. (authentication between the mobile station and the VLR, and cipher the information transmitted in the air interface (between the MS and the Base Transceiver station)). The Authentication Centre support the VLRs.

\* Equipment.

### \* EQUIPMENT IDENTITY REGISTER. (EIR)

As for AC the equipment Identity Register is used for security reasons. But while the AC provides information for verifying the sim cards, the EIR is responsible for IMEI checking (checking the validity of the mobile equipment) when this optional network element is in use, the mobile station is requested to provide the International Mobile Equipment Identity (IMEI) number. The EIR contains three lists.



Q5

## WAN architecture with the help of diagram

- ★ The WAN is a place in the network that aggregates various type speed and links running a disparate set of protocol together crossing metropolitan state and even country boundaries. The largest Example of a WAN is the internet itself. The primary purpose of a WAN is to connect users and application connected to various LANs.
- The WAN aggregation role can be subdivided into the following three categories found in enterprise networks
- BASIC WAN aggregation
  - Secure WAN aggregation (add on with solution based on IPsec or secure socket layer)
  - Optimized WAN aggregation (add on with solution base on WAN optimized and Web Cache Communication Protocol)



Q5

WAN architecture

