



Certification & Training on GSM Basics to Advance Course Duration (1 Month)

Course Content

1).Network Introduction(3 Days)

- Introduction
- History of Wireless Communication
- Phases of Network Deployment
 - Planning
 - Installation, Commissioning
 - Configuration
 - Optimization
 - Network Expansions
- Understanding of Basic Terminologies
- Analog and Digital Technologies
 - Sampling
 - Quantization
 - Encoding
- Concept of Modulation
 - Amplitude Modulation
 - Frequency Modulation
 - Phase Modulation
 - GMSK
 - QPSK
- In depth of Multiple Access Technology
 - FDMA
 - TDMA
 - CDMA
- Wireless Generations
- Standard Releases
- Electromagnetic Propagations
- Traffic Theory
- Concept of decibel (dB)

2). Introduction-.....(2 Days)

- History and evolution of wireless communication.
- Motivation for GSM.
- Current GSM status.





- Key characteristics of a GSM network.

3). GSM Overview----- (2 Days)

- Standardized GSM Frequency Bands
- GSM Architecture and Elements
 - MS
 - BSS
 - NSS
 - OSS study
- Interfaces
- Identities
- Frequency Re Use Concept

4).GSM Air Interface and Parameters----- (2 Days)

- Channels Classification
 - Logical
 - Physical
- Radio Resource Management (RR)
 - Security and Authentication
 - Encryption/Ciphering
 - TMSI
 - Frame Concept
- Coding
 - Traffic
 - Signaling
- Burst Knowledge

5).GSM Radio Concept----- (3 Days)

- Frames & Channel Dimensioning.
- Power Control
- Cell selection and reselection procedure.
- Location update procedure.
- Paging Procedure
- Handover Types.
- Frequency Hoping.





6).Radio Wave Propagation-.....(2 Days)

- Basic Definition.
- Propagation Mechanism.
- Fading.
- Diversity antennae systems.
- Interference.

7).Mobility and call processing in GSM network-.....(2 Days)

- Attach and location update process.
- Mobile Calls.
- Security in GSM.

8).GSM Services-.....(1 Day)

- Teleservices.
- Bearer services.
- Supplementary services.
- Short message.
- CAMEL and location services.

9).Optimization & Analysis-.....(3 Days)

- Site Audit
- Tool Setup
- Drive Collection
- Analysis of Field Parameters
- Troubleshooting of Field Problems
- Key Parameter Indicators (KPI)
- Layer 3 Analysis
- Post Processing of data
- Report Preparation

Holiday for Test Preparation.....(2 Days)

Course Assessment through written test & mock interview

