General Information about the Program:

Mode:

Regular (Monday to Friday, 2 Hrs per day)
Part-time (Weekends, 4 Hrs on Saturday & Sunday)
Online (Available 24 hours a day)

Award

Ace Softel Pvt. Limited Certificate

Instructional Methods:

Lectures in Classroom, on PowerPoint slides, discussion, Questions & Answers. All participants will also receive comprehensive course materials specially prepared by Ace Technologies, Training Division of Ace Softel Pvt. Ltd, Noida.

Prerequisite:

Eligibility- B.E, B.Tech, BIT, MIT, BCA, BSC, MSC, PGDCA, MS, M.Tech, MCA & PHD.

Need More Information ?

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Training Division of Ace Softel Pvt. Limited
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CDMA, WCDMA/UMTS Training (3 Months)

Course Code: M-405

Course Objective: Code Division Multiple Access is a digital wireless telephony transmission technique which allows multiple frequencies to be used simultaneously (Spread Spectrum). The CDMA idea was originally developed for military use over 30 years ago. The CDMA standards used for second-generation mobile telephony are the IS-95 standards championed by QUALCOMM. CDMA uses spread-spectrum techniques. Unlike competing systems, such as GSM, that use TDMA, CDMA does not assign a specific frequency to each user. Instead, every channel uses the full available spectrum. Individual conversations with a pseudo-random digital sequence. WCDMA, a high-speed 3G mobile wireless technology with the capacity to offer higher data speeds than CDMA. WCDMA can reach speeds of up to 2 Mbps for voice, video, data and image transmission. By 2010, CDMA technologies will be prevalent globally. Half of the Global Wireless subscribers by 2009 will be on CDMA 2000 and WCDMA. Majority of India's wireless subscribers will be serviced by CDMA technologies (CDMA2000 1X, EVDO, WCDMA/HSDPA) by 2010. This course describes in depth knowledge in CDMA based system and WCDMA based system, UMTS in brief.

What you will learn: This course provides an in depth knowledge of fundamental to advanced of CDMA, WCDMA and UMTS. Designed with the technical professional in mind, this course includes UTRAN and Core Network architecture and operation in detail.

Course Outline:

Part-1:- Code Division Multiple Access, CDMA

Module 1 : Overview of CDMA 1x, CDMA2000 (1x) Introduction, CDMA2000 (1x) Architecture, CDMA2000 (1x) Features & Services, CDMA2000 (1x) Deployment, CDMA2000 (1x) Evolution, CDMA2000 (1x) Functional Comparison
Module 2 : OVERVIEW 1xEV, Motivation for 1xEVolution, 1xEV System Architecture,Key Contributors, 1xEV Features & Services, 1xEV Deployment, 1xEV Functional Comparison,End-to-End Call Scenarios
Module 3: CDMA Fundamentals, Overview, Coding Basics, CDMA Channels, Physical Layer Operations, Call Processing, Mobility and Handoffs, Power Control
Module 4 :CDMA 2000 (1x) Networks, Introduction, Radio Access Network - Physical Layer, MAC/LAC Layers (Layer 2), Upper Layer (Layer 3), CDMA2000 (1x) Packet Core Network, Mobility in Internet & Mobile IP, IS-95 vs. CDMA2000 (1x), Looking Ahead - 1x Evolution
Module 5: CDMA 2000 (1x) Packet Data Networks, The Road to 3G, Mobility in Internet, CDMA2000 (1x) Packet Core Network, Packet Data in CDMA2000 (1x) RAN, Radio and Packet data states, Simple IP, Mobile IP, Accounting and QoS, All IP Networks
Module 6: CDMA 2000 (1x) Call Processing, Introduction, Call Processing Fundamentals, Radio Access Network (RAN), Pre-call Operations, CDMA2000 (1x) Call Setup Procedures, Traffic Channel Operations, Mobility Management, Power Control, End-to-End Scenario

Module 7: CDMA 2000 1xEV-DO (REV O AND REV A), Motivation for 1xEV-DO, 1xEV-DO Architecture, Key Concepts, 1xEV-DO Channels, Call Setup Operations, Detailed Operations, Packet Applications in 1xEV-DO, 1xEV-DO & CDMA2000 Interworking, 1x Evolution Alternatives, End-to-End Call Scenarios

Module 8 : CDMA 2000 1xEV-DO (REV C AND REV D), Motivation for 1xEV-DV, Key Concepts, 1xEV-DV Channels, Call Setup Operation, Detailed Operations of F/R-PDCH, Handoff and Power Control, Deployment, Key Features (Non DV), Appendix: End-to-End Call Scenario

Part -2 : WCDMA/UMTS

Module 1 : OVERVIEW OF UMTS, 3G Characteristics, UMTS Overview, UMTS Core Network, UMTS Terrestrial Radio Access Network (UTRAN), System Scenarios, Future of UMTS
Module 2 : EXPLORING UMTS, Introduction, UMTS (W-CDMA) Overview, UMTS (W-CDMA) Core Network Architecture, UMTS (W-CDMA) Radio Network Architecture, Radio Interface Protocols, System Scenarios, Circuit-Switched Scenarios, Packet-Switched Scenarios, UMTS (W-CDMA) Services, UMTS (W-CDMA) Future
Module 3 : MASTERING UMTS, Introduction, UMTS (W-CDMA) Architecture, UTRAN Architecture, UTRA Air-Interface Physical Layer, Radio Link Protocols, System Flows, End-End Scenarios: Circuit-Switched Domain, Packet Data Review, UMTS (W-CDMA) Packet Domain Core Network, UMTS (W-CDMA) Packet Domain Interfaces, End-to-End Flows, All-IP UMTS (W-CDMA) Network
Module 4 : MASTERING UMTS (W-CDMA) FDD RADIO NETWORKS, Introduction: UMTS (W-CDMA) Architecture and Services, UTRAN Architecture Overview, Basic Call Setup Scenarios, Basic Physical Layer Functions, Data Session Setup, Service Reconfiguration and Release Scenarios, UTRAN operations, Administration and Maintenance, UTRAN Mobility Management Scenarios, Quality of Service, Framing and Synchronization Scenarios, Advanced Physical Layer Procedures, Evolution to All-IP UTRAN Architecture
Module 5 : UMTS (W-CDMA) ALL IP MULTIMEDIA NETWORKS, Existing UMTS (W-CDMA) Architecture, Introduction to VoIP Protocols, Architecture of UMTS (W-CDMA) IP Multimedia Subsystem (IMS), Scenarios in UMTS (W-CDMA) IMS, Interworking, UMTS (W-CDMA) IMS Quality of Service (QoS), UMTS (W-CDMA) IMS and IPv6, UMTS (W-CDMA) IMS Services, Road Ahead
Module 6 :UMTS (W-CDMA) INTER RAT HANDOVERS, Introduction to Inter-RAT, Handovers in UMTS (W-CDMA), GSM Physical Layer, GSM Mobility Management and Call Setup, GSM Dedicated Mode Messaging, Overview of GPRS, Inter-RAT Procedures
Module 7 :MASTERING HSPDA, Introduction, UMTS Network Architecture, Key Aspects of HSDPA, HSDPA Channels, Impact to Iub/Iur Interfaces, Packet Data Scenarios, Mobility Scenarios, Comparison to 1xEV-DV

Who Should Attend:
We believe in nurturing talent, creating skill sets and providing quality training which in turn serves as a job guarantee to job seekers as all our trainees, who successfully completes the in-house training, are picked up by leading companies. Also, persons who are working in GSM, GPRS or CDMA technologies and are interested to learn latest technologies, this course would be beneficial.

Prerequisite:
Eligibility- B.E, B.Tech, BIT, MIT, BCA, BSC, MSC, PGDCA, MS, M.Tech, MCA & PHD. Persons having previous knowledge of GSM/CDMA would be preferred.

Duration:
3 Months