



INSTITUTE OF AERONAUTICAL ENGINEERING (Autonomous)

Dundigal, Hyderabad – 500 014

IARE/Estd/205-16/CSE/006

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CIRCULAR

The Department of CSE, is taking the initiative for building a career enhancement program to make our students industry-ready. To do so, we believe that it is crucial to shift from passive education to active learning, and it is extremely important to that the development of technology and society are linked. With this motto, a 6 week training program has been arranged for the CSE & IT students in the following trending technologies.

Training Program 1: SAP-ABAP

SAP is a system that provides users with a soft real time business application. ABAP is a high level programming language and is one of the application specific fourth Generation Language 4GL developed for SAP R/3 system.

Training Program 2: Data Mining using Informatica

Informatica is a data integration tool, that provides the market's leading data integration platform. It is a portfolio focused on data integration: ETL, information lifecycle management, B2B data exchange,, data quality, data replication, data virtualization, and master data management.

Training Program 3: iOS

iOS is the operating system that runs on iPad, iPhone, and iPod touch devices. The operating system manages the device hardware and provides the technologies required to implement native apps. Xcode is an integrated development environment (IDE) containing a suite of software development tools developed by Apple for developing software for OSx and iOS. The programming language used in iOS development is objective C.

Eligible students : III B. Tech II Semester CSE & IT
Student Strength : 25 per training program
Duration : 6 weeks
Time : 3:00 PM to 6:00 PM
Date : 06-01-2016 to 26-01-2016 (Slot One - 3 weeks)
08-02-2016 to 27-02-2016 (Slot Two - 3 weeks)

Each training program will be conducted for 3 weeks, and the students are required to register for any 2 programs of their choice.

Program Co-ordinator: Ms. G Sunitha, Professor, CSE

DIRECTOR

Copy to:

The Principal, HODs of CSE, IT, ECE, EEE, ME, AE and CE
Deans – Academic, R & D, PG studies, Student Affairs, and Academic Audit and Quality Control
Controller of Examinations

Training Program 1: SAP – ABAP COURSE CONTENT

WEEK 1

1. Introduction
 - ERP Overview
 - Various ERP packages
 - About SAP
 - Features and advantages of SAP
2. Architecture of R/3 System
 - R/1 and R/2 Architectures
 - R/3 Architecture
 - Presentation Server
 - Application Server
 - Data base Server
 - What is ABAP and why?
 - SAP R/3 Logon & Logoff Procedure
 - What is transaction code and usage?
3. ABAP Programming
 - Introduction to ABAP editor
 - ABAP Programming Features
 - Keywords
 - Datatypes and Data Objects
 - Operators
 - String Handling
 - Conditional Statements and Looping structures
 - Field Symbols
 - ABAP Development work Bench
 - Package Creation
 - Debugging
 - User Dialog:Selection-Screen
 - Parameters
 - Select –Options

WEEK 2

4. Components of ABAP Dictionary
 - Database Tables
 - Domains
 - Structures
 - Views
 - Table Types
 - Type Groups
 - Search Help
 - Lock Objects
5. ABAP Database Objects
 - Open SQL
 - Definition and Creation of internal Tables
 - Different Internal Table Types
 - Open SQL with joins

6. Modularization Techniques
 - Includes
 - Sub Routines
 - Function Modules
 - Methods
 - Message Class

7. Report Programming
 - Classical Reports
 - Interactive Reports
 - ALV Reports

WEEK 3

8. Dialog Programming
 - Introduction
 - Screen Painter
 - Menu Painter
 - Table Control
 - Tab Strip Control
 - Field Validation
9. Data Migration Techniques
 - Requirement
 - Direct Input Method
 - Background Processing
 - Interface Programming with BDC
 - Call Transaction and Session Method
 - Legacy System Migration WorkBench(LSMW)

10. Smart Forms

11. Object Oriented ABAP(OOABAP)
 - Enhancements
 - Business Add-Ins

12. Cross Applications
 - Introduction
 - Remote Function Call(RFC)
 - Web Services
 - Business Application Programming Interface(BAPI)
 - Business Object Repository(BOR)
 - Intermediate Document(IDoc)
 - Application Linking Enabling(ALE)
 - Electronic Data Interchange(EDI)

Training Program 2: Data Mining using Informatica 9.5 Course Content

Week-1

Introduction to Data warehousing

- What is Business Domain?
- What is Enterprise?
- What is data warehousing?
- Why data warehousing required?
- Types of systems?
- OLTP and OLAP.
- Characteristic features of OLTP and OLAP.
- Differences between OLTP and OLAP.
- Data acquisition.

Data Extraction

- **Data transformation**
- Data Merging
- Data Scrubbing
- Data cleansing
- Data Aggregation
- **Data loading**
- Initial Loading or Full loading
- Delta loading or Incremental loading
- Type of ETL
- ETL Plan
- Data warehousing Approach
 - Top down approach
 - Bottom up approach
- Data mart
- Data warehousing Life Cycle.

Data Warehousing Database

- **Design.**
- Start Schema
- Snow Flake Schema
- Galaxy Schema
- **Slowly Changing Dimensions**
- SCD Type 1
- SCD Type 2
- SCD Type 3

Informatica Architecture

Server Components

- Repository
- Domain
- Node
- Admin Console
- Repository Services
- Integration Services

Client Components

- Repository Manager
- Designer
- Workflow

- Manager
- Workflow Monitor

DWH ETL Process

- Source
- Target
- Transformation rule
- Source definition
- Target definition
- Mapping
- Session task
- workflow
- ODS
- HPQS

Informatica 9.1

- Overview of Informatica tools
- Informatica products
- Basic definitions
- Tools and their roles
- Folders and sub-folders

Informatica Designer

- Introduction to designer
- **Designer Tools**
- Source Analyzer
- Target Designer
- Mapping Designer
- Transformation developer
- Mapplet designer

Defining sources

- Database table as source
- Flat file as source
- Excel file as source

Defining Targets

- Creating new target
- Importing from database

Mapping

- Creating mapping without transformations
- Creating mapping -table to table
- Creating mapping- flat file to table
- Ports and types of ports
- Source qualifier

Transformations

- Expression Transformation
- Filter Transformation
- Router Transformation
- Sorter Transformation
- Rank Transformation
- Aggregator Transformation
- Sequence generator Transformation
- Joiner Transformation

- Union Transformation
- Source Qualifier Transformation (Filter)
- Source Qualifier Transformation (Joiner)
- Lookup Transformation
- Stored procedure Transformation
- XML Source Qualifier Transformation
- Transaction control Transformation
- Normalizer Transformation
- SQL Transformation
- **Un connected Transformations**
- Unconnected stored procedure
- Unconnected lookup
- Frequently used functions
- Mapping wizard
- Mapping debugger
- Target load plan
- Mapping parameters
- Mapping variables
- Mapping dependencies
- Mapping Comparison
- Import / Export objects
- Generate workflow

Week-2

Transformation Developer

- Creating reusable transformation
- Convert non reusable to reusable T/R
 - **Mapplet Designer**
- Creating mapplet
- Mapplet input
- Mapplet output

Workflow Manager

- Introduction to task developer
- creating task
- Creating relational connections
- Task and types of tasks

Reusable tasks

- Session task
- Email task
- Command task

Batch Processing

- Parallel processing
- Sequential processing

Non reusable task

- Session task
- Email task
- Command task

- Decision task
- Event wait
- Event raise
- Timer task
- Assignment task
- Control task
- worklet task
- Link connections
- Link Conditions
- Setting properties of session task
- Session parameters for flat file
- Session parameters for database
- Incremental loading
- Constraint based loading
- workflow variable
- workflow events
- Implementation of SCD Type 2
- Implementation of SCD Type 1
- Update strategy transformation

- Worklet Designer
- Worklet and types of worklet
- Reusable worklet
- Non reusable worklet
- Worklet limitations
- Scheduling workflow
- Reusable schedule
- Non reusable schedule
- Run options

Workflow Monitor

- Observing workflow execution
- status
- session properties
- session logs
- workflow properties
- workflow logs
- Error logs
- Push down optimization
- Cache mechanism
- Performance tuning
- Identifying of bottle necks
- Optimization of bottle necks

ETL Testing

- Unit Testing
- Integration testing
- System testing

Week-3

➡ **Real Time Scenario's**

➡ **Interview Questions**

➡ **Assignments for each top**

Training Program 3: iOS Course Content

WEEK-1

1. **Introduction**
 - iPhone
 - Software Development Kit
 - Xcode
 - Xcode Templates
2. **iPhone Software Architecture**
 - Cocoa touch
 - Media Layer
 - Core services
 - Core OS
3. **Objective C Programmig**
 - Objective C Class Structure
 - OOPs Structure
 - Differences between C and Objective C
 - Object Creation
4. **Implementation Structure**
 - Objective C Keywords
 - Methods
 - Properties
5. **Message Syntax**
 - Conditions
 - Loops
 - Setters
 - Getters
6. **Protocols and objective C**
7. **Foundation Frame work**
 - Data Types
8. **NS Dictionary**
 - Narray
 - NSMutableArray String
 - NSString
9. **Adding to Mutable Array**
 - Dictionary
 - NSBundle
10. **NS File Manager**
 - NSClass
 - NSObject
 - NSURL
11. **IB Action**
 - IBOutlet
 - Procedure
12. **Application Life Cycle**
 - Component Life Cycle

13. **UIKitFrame Work**
 - UIButton
 - UILabel
14. **Code Snippets**
 - UI Segmented Control

WEEK-2

15. **Web view Creation**
 - Components
 - UISlider
 - UIStepper
 - UISwitch
16. **UIProgress View**
 - UIPickerView
 - UITableView
17. **Story Boards**
 - UI Navigation Controller
 - UITabbarController
 - UIModel Trasitions
18. **MVC Pattern**
 - Model
 - Local Data
 - Server Data
 - Architecture of web services
19. **NSURL Connection**
 - JSON Serialization
 - Xml
20. SQLite methods
21. **How to add Library to an application**
 - Core Data
 - NS Predicate
 - NS Fetch Request

WEEK-3

22. **Constraints**
23. **UI Touches**
 - UI Gestures
 - Recognizer
24. **Phone Gap**
 - UI Page View
 - Banner View
25. **Application Submission Process**