

**Sub: Summer Internship with Industrial Training on Network Management with Ethical Hacking and Web Development with Python and Android App Development with Core Java**

**Certificates (Total 4):**

- 1 for Summer Internship.**
- 1 for Network Management and Web Development with Python.**
- 1 for Android App Development with Core Java.**
- 1 for Industrial Training.**

**Live Projects (Total 3):**

- 1 for Network Management**
- 1 for Web Development with Python**
- 1 for Android App Development**

**We will help the students create their respective 3 project reports.**

**Course Highlights:**

- 100% hands-on lab exercises
- Regular individual time bound test
- Emphasis on Group work & group test
- Hacking - Countermeasures
- Cyber Crime Cases - Countermeasures
- T10( Ten Minutes Ten Marks): To test your speed and knowledge

**Course name: Network Management with Ethical Hacking and Web Development with Python and Android App Development with Core Java**

**## Network Management**

- Introduction to Networking and Network Management
- Structured Cabling
- Introduction to TCP/IP, subnetting, Vlsms and troubleshooting TCP/IP
- Routing
- Router Configuration
- Vlans Configuration
- Nat and Pat Configuration
- Basic Unix Concepts

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- Commands and Utilities
- KDE (Linux)
- Networking with Linux (with Installation)
- Telnet configuration
- User Administration
- File Systems Management
- Disk quota & Partitioning
- FTP configuration
- DNS configuration
- Apache web server configuration
- Live dns, web server and ftp configuration
- DHCP configuration
- Samba configuration
- NFS configuration
- Configuring Sendmail
- Squid proxy server configuration
- Firewall Services
- Shell Programming
- Final Project

### **## Information Security and Hacking Counter measures**

- Foot Printing
- Scanning
- Trojans
- Steganography
- Sniffers
- Denial of Service
- DNS Poisoning
- Session Hijacking
- Phishing
- Fake mail
- Proxy server
- & more ...

### **## Cyber Crime**

- Cyber Crime cases in India
- Counter Measures
- Indian IT ACT

## ## Web Development

- Introduction to web programming and HTML
- PHP introduction
- PHP basics
- Merging PHP with HTML
- File handling
- Dynamic Linking
- Introduction to database
- MySQL - a web based database system
- Database Connectivity
- CSS
- Cookie handling
- Session handling
- PHP mail application
- PHP ftp application
- JavaScript validations
- Introduction to Enterprise level application
- Introduction to secured programming
- SQL injection and Countermeasures
- Phishing - live implementations and demonstrations

## ## Search Engine Optimisation (SEO)

- Detail discussion on Internet marketing strategy and SEO. How search engines work, what people search for, the actual search terms or keywords.
- Getting indexed in Google Search
- Bots, Sitemap, Spider, Meta Tags and more
- Google Webmaster and Analytics

### ### Live Implementation

- Uploading the web solution live.
- ### Final Project
- ### Final Project using secured programming along with PHP, HTML, MySQL, CSS, JavaScript, Linux, PHP mail and PHP ftp.

## ##Python with Django

- Basic of python
- Datatypes
- List
- Tuple
- String
- Set
- Dictionary
- Loops
- Installation of python
- Environment setup
- Pycharm setup
- Web-development with Django
- Introduction About Django Django Components
- Installing & Configuring Django Components Django Pre-Requisites Downloading & Installing Django
- Django Design principle
- Generating Simple Django Views
- About View Functions
- HttpRequest Objects
- Configuring URLconf's
- About URLconf
- Regular Expressions
- Expression Examples
- Simple URLConf Examples
- Using Multiple URLConf's
- Passing URL Arguments
- Django Templates
- About Templates
- Template Fundamentals
- Creating Template Objects
- Loading Template Files
- Filling in Template Content (Context Objects)
- Template Filters
- Template Tags
- More on For Loops
- Template Inheritance
- HTML Forms
- The Forms Module
- Creating the Form
- Generating Output From the Form

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- Customizing Field Parameters
- Processing Form Data
- Custom Form Field Validation
- Generating Custom Field Errors
- Customizing Form Output
- Django Email functionality
- Configuring Mail Settings
- Sending Email
- Other Email Functions
- Final project

### ## Android App Development with Core Java

- Core Java
- Introduction to Android
- Overview of Mobile Application Development
- Android Stack Overview of Stack Linux Kernel
- Native libraries
- Dalvik Virtual Machine Application Framework
- Android Platform Components
- Android Development Tools
- Android Development Environment
- System requirements
- Eclipse and SDK installation, AVD creation
- Creating first Android application
- Project Structure
- Activating components
- Shutting down components
- Life Cycle of Application
- Declarative Event Handling
- Android application building blocks
- Activity
- Intent
- Services
- Content Providers
- Broadcast Receivers
- Start Activity
- Shut down Activity
- Intent's Extras Object
- Intent Filter in Manifest File
- XML Vs Java UI
- Layouts
- Common UI Component
- Drag and Drop UI Design

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- Menu Creation, Dialog, Toast, Alert, Time Picker, Date Picker, Custom Dialog
- Pre-condition and Post-condition
- Event listeners
- Event handlers
- Touch mode
- Toast Notification
- Status Notification
- Applying Style and theme
- Security model
- File System
- Multimedia Supported audio formats
- Simple media playback
- Supported video formats
- Simple video playback
- Shared Preferences
- Internal Storage (Files)
- External Storage (SD Card)
- SQLite Databases
- Debug Certification
- Certificate & keystone creation
- Self-certifications
- Application Signing
- 2D Graphics
- 3D Graphics
- Topics to be covered:
- Map Layout
- Get user Location
- Content provider MIME types
- Searching for content
- Adding, changing, and removing content
- Working with content files
- Introduction to Content Provider
- User Defined Content Provider
- System Content Provider
- What are Broadcast Receivers
- Implementing broadcast receiver
- System broadcasts and how to use them
- Role of filters
- Intent-matching rules
- Filters in your manifest
- Filters in dynamic Broadcast Receivers
- How Sensors work
- Listening to Sensor readings

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- Monitoring and managing Internet connectivity.
- Managing active connections
- Taking pictures
- Rendering previews
- Controlling local Bluetooth device
- Discovering and bonding with Bluetooth devices
- Managing Bluetooth connections
- Communicating with Bluetooth
- Managing WiFi

### ## Firebase

- Steps to add Firebase to Android
- Using Firebase feature in Android Application
- Login page application using Firebase
- OTP authentication using Firebase
- Firebase Google authentication
- Firebase email and password authentication
- Google Sign in authentication
- Writing Firebase Realtime Database
- Working with Realtime Database
- Working with Firebase Storage
- Final Project