



TECHNOCATION FREELANCING TRAINING INSTITUTE & SOFTWARE HOUSE

Professional Diploma in Information Technology (DIT) Course Outline

Module 1: Introduction to Information Technology

- Overview of IT & Its Importance in Modern Businesses
- Computer Components: Hardware & Software
- Operating Systems: Windows, macOS, Linux
- Internet & Networking Basics

Module 2: Programming Fundamentals

- Introduction to Programming Languages (C, Python, Java)
- Variables, Data Types, Operators, and Control Structures
- Functions, Loops, and Conditional Statements
- Hands-on Coding Exercises

Module 3: Computer Hardware & Maintenance

- Understanding Computer Components (Motherboard, CPU, RAM, Storage)
- Assembling & Disassembling a Computer
- Troubleshooting Common Hardware Issues
- Installing and Configuring Operating Systems

Module 4: Database Management Systems (DBMS)

- Introduction to Databases (SQL vs. NoSQL)
- Creating and Managing Databases (MySQL, MongoDB)
- Performing CRUD Operations
- Basics of Data Security and Backup Strategies

Module 5: Computer Networking

- Networking Basics (LAN, WAN, TCP/IP, DNS)
- Network Devices (Routers, Switches, Firewalls)
- Introduction to Cybersecurity and Network Security
- Wireless Networks & Cloud Computing

Module 6: Web Development

- HTML, CSS & JavaScript Fundamentals
- Responsive Web Design with Bootstrap
- Frontend Development (React, Angular)
- Backend Development (PHP, Node.js)
- Web Hosting & Domain Management

Module 7: Cybersecurity & Ethical Hacking

- Understanding Cyber Threats & Attacks
 - Basics of Ethical Hacking & Penetration Testing
 - Data Encryption & Security Protocols
 - Cybersecurity Best Practices
-

Module 8: Software Engineering & System Development

- Software Development Life Cycle (SDLC)
- Agile & DevOps Methodologies
- Testing & Debugging Techniques
- Project Management in IT

Module 9: Mobile App Development

- Introduction to Android & iOS Development
- Using Flutter & React Native for Cross-Platform Apps
- UI/UX Design for Mobile Apps
- Publishing Apps on Play Store & App Store

Module 10: Artificial Intelligence & Machine Learning

- Introduction to AI & ML Concepts
 - Data Science & Big Data Basics
 - Hands-on ML with Python (TensorFlow, Scikit-Learn)
 - AI Applications in IT
-

Module 11: IT Project Management

- IT Governance & Compliance
- Managing IT Teams & Resources
- IT Infrastructure Planning
- Business Intelligence & IT Strategies

Module 12: Final Year Capstone Project

- Real-World IT Project
- Software or Networking Implementation
- Presentation & Portfolio Development
- Course Completion Certification