| Module Name (Computer Engineering/IT) | Total Hours |
|---|---|
| **Network Administration** | **30** |

| Topic | Sub Topic | Hours |
|---|---|---|
| 1. Introduction to networking concepts | 1.1 Basic of Computer Network<br>1.2 Classification of Network Based on Size<br>1.3 Types of Data Transmission<br>1.4 Straight and Reverse Cable , Color coding schemes for UTP cables. | 1 |
| 2. Networking devices | 2.1 Managed and Un-Manageable Devices<br>2.2 Hubs<br>2.3 Brides<br>2.4 Switches (Layer 2 - Layer 3 both)<br>2.5 Routers<br>2.6 Gateway | 3 |
| 3. Exploring routing concept and protocols | 3.1 Basics of Routing<br>3.2 Types of Routing and Routing Protocol (RIP, IGRP EIGRP, OSPF) | 2 |
| 4. Implementing routers in the network | 4.1 Comparison of Static and Dynamic routing<br>4.2 Compare and differences distance vector and link state routing protocols<br>4.3 Troubleshoot basic Layer 3 end-to-end connectivity issues | 4 |
| 5. Implementing switches in the network | 5.1 Configure, verify, and troubleshoot VLANs (normal/extended range) spanning multiple switches<br>5.2 Configure, verify, and troubleshoot inters witch connectivity<br>5.3 Configure, verify, and troubleshoot STP protocols | 4 |
| 6. Install Windows 2012 Network operating System | 6.1 Installing win 2012 server<br>6.2 Installation of Active Directory Service<br>6.3 Installation of File Service | 3 |
| 7. Installing and configuring network services | 7.1 Install & Configure DHCP<br>7.2 Install & Configure DNS<br>7.3 Install & Configure File Server.<br>7.4 Install & Configure Print Server<br>7.5 Install & Configure Web Server | 5 |
| 8. Introduction of firewall | 8.1 Introduction of Firewall<br>8.2 Types of Firewall<br>8.3 Configuration of Firewall Policy for the Network<br>8.4 Configuration of Open Source Firewall<br>8.5 Basic Configuration of NAT | 4 |
| 9. Implementation of entire network | 9.1 Implement Local Network using Router, Switch, and all types Servers. | 4 |
| | Total Hours | 30 |