## Introduction to Networks

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| *SMS Code* | IN515001/IX515001 | *Directed Learning hours* | 60 |
| *Level* | 5 | *Workplace or Practical Learning hours* | nil |
| *Credits* | 15 | *Self-Directed Learning hours* | 90 |
| Prerequisites | none | *Total Learning Hours* | 150 |
| *This course approved in another Programme: No* | | | |

***Aims***

To introduce students to fundamental networking concepts, and technologies.

***Learning Outcomes***

At the successful completion of this course, students will be able to:

1. Use network protocol models to explain the layers of communications in data networks
2. Design, calculate, and apply subnet masks and addresses
3. Build a simple Ethernet network using routers and switches
4. Employ basic cabling and network designs to connect devices
5. Perform basic router and switch configuration, and verification
6. Analyse the operations and features of the transport and network layer protocols, and services

***Indicative Content***

* OSI model
* Types of networks
* Application layer functionality
* Transport layer protocols (TCP/UDP)
* Network Layer protocols (IPv4)
* Layer 3 Addressing and subnetting
* Data link layer concepts and addressing
* Network cabling
* Configuring and testing a network

***Assessment***

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| **Assessment Activity** | **Weighting** | **Learning Outcomes** |
| Weekly quiz | 25% | All |
| Skills based assessment | 25% | 2,3,4,5 |
| Theory Exam | 50% | All |

A single final result to be entered in SMS at completion.

***Resources* Required:**

Cisco Network Academy Routing and Switching series “Introduction to Networks.”

Student Lab Manual”