

Wired & Wireless networks

- Types of network

- Local Area Network [LAN]
- Wide Area Network [WAN]

- Factors that affect the performance of networks:

- Bandwidth
- Latency
- Error rate
- Transmission media

- Different roles of computers in a network:

- Client-server network
- Peer-to-peer network

- Hardware needed to connect standalone computers into a Local Area Network:

- Wireless Access Points
- Router
- Switch
- Network Interface Card (NIC)
- Transmission Media

- The Internet

- Definition
- Domain Name Server [DNS]
- Web hosting
 - Benefits / Drawbacks
- The cloud
 - Benefits / Drawbacks
- Virtual networks

Network topologies, protocols & layers

- Topologies

- Star
- Mesh
- Bus / Ring – why are these no longer used?

- Wi-Fi:

- Frequency & channels
- Encryption

- Ethernet

- Definition

- IP addressing & MAC addressing

- Protocols:

- Transmission Control Protocol / Internet Protocol [TCP/IP]
- Hyper Text Transfer Protocol [HTTP]
- Hyper Text Transfer Protocol Secure [HTTPS]
- File Transfer Protocol [FTP]
- Post Office Protocol [POP]
- Internet Message Access Protocol [IMAP]
- Simple Mail Transfer Protocol [SMTP]

- The concept of layers

- TCP/IP stack

- Packet Switching

- What is a packet?
- How are packets sent around a network?



TCP/IP model Protocols and services

Application	HTTP, FTP, Telnet, NTP, DHCP, PING
Transport	TCP, UDP
Network	IP, ARP, ICMP, IGMP
Network Interface	Ethernet

