Unit 1 overview

Online services

Communication
Real-time information
Government
Commerce

Education
Entertainment
Virtual Learning network
Business
Download services

Online advertisement

Banner adverts
Pop-up adverts

Affiliate model

Online documents and file compression

Data compression
Compression formats

Lossy compression
Lossless compression

Online software and backup

Online software
Stand-alone software

Collaborative working

Advantages of collaborative working
Levels of access
File permission
Version control

Online communication

Plubishing information

Sharing information
Online communities

Netiquette
Profile
Instant messaging
Client and server roles in instant messaging

Voice over Internet Protocol

Advantages of VOIP
Disadvantages of VOIP

Cloud computing

Benefits of cloud storage
Drawbacks of cloud storage

Ubiquitous computing

RFID chips
The Internet of objects

The internet – hardware

Server
Client
Connections/cables
Backbone

The internet – network diagrams

POP – Point of presence
NAP- Network access point

Connection methods

Wireless
Broadband
Dial-up

Internet protocols

TCP
IP
FTP
Data exchange – packet switching

World Wide Web

Hyperlinks
Web servers
Browsers

HTML

HTML tags / elements
Small example

URLs

Web protocols
Domains

Search Engines

Web crawlers/spiders
Index
Search results

Email – purpose and uses

Benefits
Limits

Email protocols

SMTP
POP3
IMAP

Data exchange – packet switching

Data packets
VoIP and packet switching
Advantages of packet switching

Data exchange – transmission modes

Serial
Parallel

Simplex
Half-duplex
Full-duplex

wired transmission methods

UTP / STP

Coaxial
Fibre optic

Wireless transmission methods

Infrared
Microwave
Satellite

Client-side processing

Benefits / Drawbacks

Server-side processing

Benefits / Drawbacks

Database theory

Flat file databases
Relational databases

Database in practice

DBMS (Data-base Manipulation System)
SQL (Structured Query Language)

Threats to data

Opportunity threats
Computer viruses
Other malware
Phishing
Accidental damage
Hackers

Protection of data

Physical barriers
Password control of access
Access levels
Anti-virus software
Firewall
Encryption
Backup and recovery
Recovery
Personal safety

Legislation
Data Protection Act
Computer Misuse Act
Copyright. Design and Patents Act
Freedom of Information Act