



 **Appendix** 
INCLUDING ANSWERSHEETS

Information Technology Foundation Course



World ORT Union





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MULTIPLE CHOICE ANSWER SHEETS

Answer questions by putting the chosen letter in the box on the answer sheet.



HARDWARE

Input devices

1	2	3	4	5	6	7	8	9	10

Output devices

1	2	3	4	5	6	7	8	9	10

Storage devices

1	2	3	4	5	6	7	8	9	10

Computer logic

1	2	3	4	5	6	7	8	9	10

Processor & Memory

1	2	3	4	5	6	7	8	9	10

Range of computers

1	2	3	4	5

Generations of computers

1	2	3	4	5



SOFTWARE

Word processors

1	2	3	4	5

Spreadsheets

1	2	3	4	5	6



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MULTIPLE CHOICE ANSWER SHEETS

Answer questions by putting the chosen letter in the box on the answer sheet.



SOFTWARE continued

Databases

1	2	3	4	5

Systems software

1	2	3	4	5



COMPUTER LANGUAGES

1	2	3	4	5	6	7	8	9	10



DEVELOPING AN INFORMATION SYSTEM

1	2	3	4	5	6	7	8	9	10



INFORMATION REPRESENTATION

1	2	3	4	5	6	7	8	9	10



NETWORKS

1	2	3	4	5	6	7	8	9	10



INTERNET

1	2	3	4	5	6	7	8	9	10



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MULTIPLE CHOICE ANSWERS

HARDWARE

Input devices

1	2	3	4	5	6	7	8	9	10
B	B	C	B	A	C	A	C	B	A

Output devices

1	2	3	4	5	6	7	8	9	10
B	B	B	A	B	C	C	B	A	A

Storage devices

1	2	3	4	5	6	7	8	9	10
C	B	A	B	A	B	A	C	A	C

Computer logic

1	2	3	4	5	6	7	8	9	10
B	A	A	B	A	C	C	C	B	B

Processor & Memory

1	2	3	4	5	6	7	8	9	10
C	A	C	B	B	A	B	C	C	A

Range of computers

1	2	3	4	5					
A	A	C	B	B					

Generations of computers

1	2	3	4	5					
A	C	C	B	A					

SOFTWARE

Word processors

1	2	3	4	5					
B	B	C	C	B					

Spreadsheets

1	2	3	4	5					
C	A	B	C	B					





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MULTIPLE CHOICE ANSWER SHEETS



SOFTWARE continued

Databases

1	2	3	4	5					
C	B	A	C	C					

Systems software

1	2	3	4	5					
B	B	A	B	C					



COMPUTER LANGUAGES

1	2	3	4	5	6	7	8	9	10
A	B	C	A	A	B	C	B	C	C



DEVELOPING AN INFORMATION SYSTEM

1	2	3	4	5	6	7	8	9	10
C	C	B	B	B	A	C	C	B	B



INFORMATION REPRESENTATION

1	2	3	4	5	6	7	8	9	10
A	C	C	A	B	B	C	B	A	B



NETWORKS

1	2	3	4	5	6	7	8	9	10
C	C	B	B	B	A	C	C	B	C



INTERNET

1	2	3	4	5	6	7	8	9	10
B	C	A	B	B	C	A	B	C	C



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APPENDIX

CASE STUDY ANSWERS

Activity 4

2 Formulae

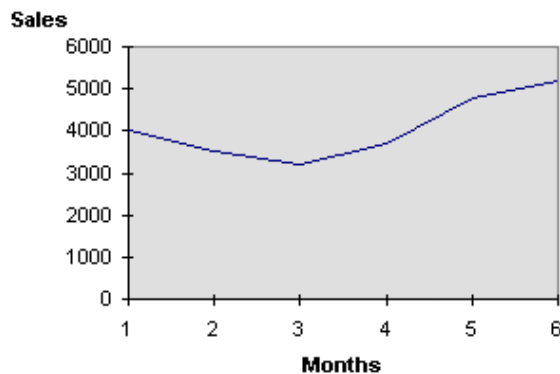
	A	B	C	D	E	F	G	H
1	Table 1 - CD Sales Report for the last six months for music CDs							
2	Month	1	2	3	4	5	6	
3	Category	\$	\$	\$	\$	\$	\$	Totals
4	Pop	4000	3500	3200	3700	4800	5200	=sum(b4:g4)
5	Classical	800	1200	1500	1700	1850	1950	=sum(b5:g5)
6	Jazz	900	750	700	680	650	600	=sum(b6:g6)
7	Totals	=sum(b4:b6)	=sum(c4:c6)	=sum(d4:d6)	=sum(e4:e6)	=sum(f4:f6)	=sum(g4:g6)	

Answers

	A	B	C	D	E	F	G	H
1	Table 1 - CD Sales Report for the last six months for music CDs							
2	Month	1	2	3	4	5	6	
3	Category	\$	\$	\$	\$	\$	\$	Totals
4	Pop	4000	3500	3200	3700	4800	5200	24400
5	Classical	800	1200	1500	1700	1850	1950	9000
6	Jazz	900	750	700	680	650	600	4280
7	Totals	5700	5450	5400	6080	7300	7750	

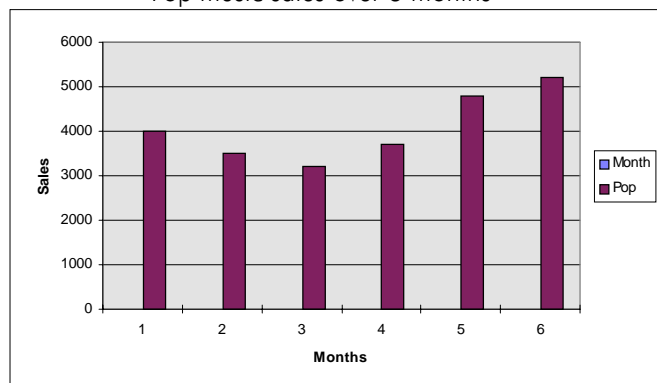
3 a. Data shown as a line graph

Pop music sales over 6 months



b. Data shown as a bar graph

Pop music sales over 6 months





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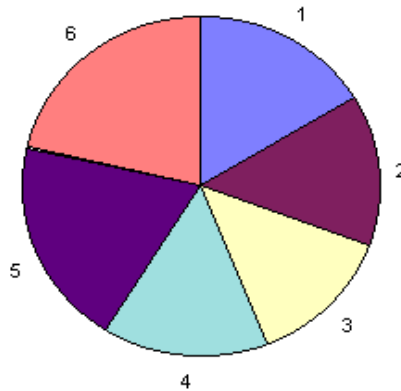
APPENDIX

CASE STUDY ANSWERS

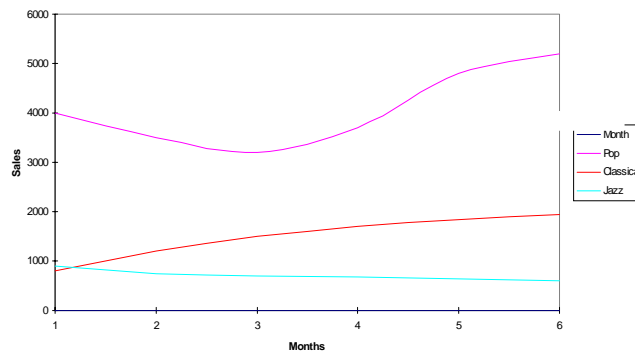
Activity 4

c. Data shown as a pie chart

Pop music sales over 6 months



d. Data shown as a three line graph



Activity 5

2 Formulae

	A	B	C	D	E	F
1	Table 2 - CD Sales Report for the last year for Music CDs & CD-ROMS					
2	Category	Retail	% of total	Wholesale	Gross	% of total
3	of CD sold	Sales (\$)	CD sales	costs (\$)	profits (\$)	profit
4	Pop	52000	=b4*100/b10	35000	=b4-d4	=e4*100/e10
5	Classical	14000	=b5*100/b10	8100	=b5-d5	=e5*100/e10
6	Jazz	9400	=b6*100/b10	5200	=b6-d6	=e6*100/e10
7	Reference	26000	=b7*100/b10	18700	=b7-d7	=e7*100/e10
8	Educational	19000	=b8*100/b10	9400	=b8-d8	=e8*100/e10
9	Entertainment	27000	=b9*100/b10	13000	=b9-d9	=e9*100/e10
10	Totals	=sum(b4:b9)	=sum(c4:c9)	=sum(d4:d9)	=sum(e4:e9)	=sum(f4:f9)



APPENDIX

CASE STUDY ANSWERS

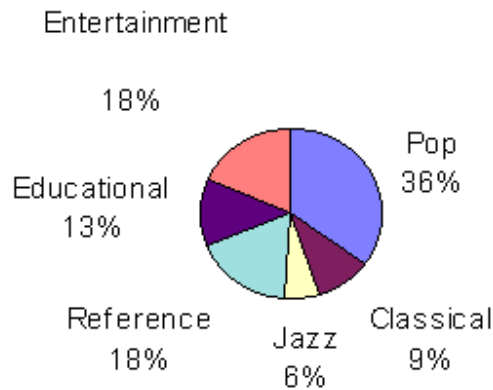
Activity 5

2 Answers

	A	B	C	D	E	F
1	Table 2 - CD Sales Report for the last year for Music CDs & CD-ROMS					
2	Category of CD sold	Retail Sales (\$)	% of total CD sales	Wholesale costs (\$)	Gross profits (\$)	% of total profit (\$)
3						
4	Pop	52000	35%	35000	17000	29%
5	Classical	14000	9%	8100	5900	10%
6	Jazz	9400	6%	5200	4200	7%
7	Reference	26000	18%	18700	7300	13%
8	Educational	19000	13%	9400	9600	17%
9	Entertainment	27000	18%	13000	14000	24%
10	Totals	147400	100%	89400	58000	100%

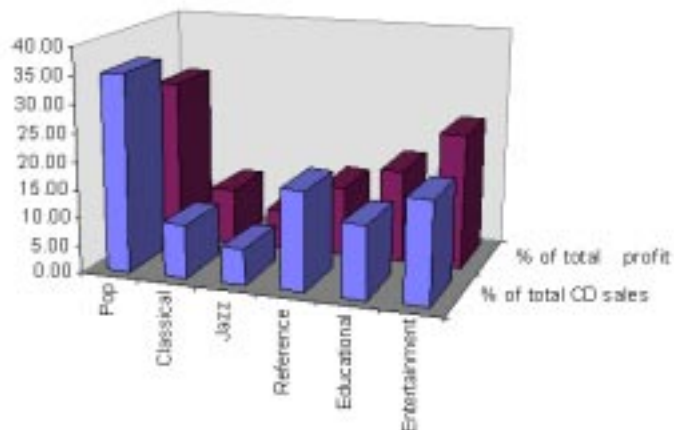
4 Pie chart displaying retail sales figures

Sales by category



5 Bar chart showing sales and profit data on the same graph

Comparison of sales % with profits %



**DO****I.T.****Information Technology Foundation Course****APPENDIX****GLOSSARY ENTRIES****Access rights**

Some files (or complete directories) can be classed "read only", which means that the reader cannot alter the file, or delete it - access is denied.

ALU

Arithmetic Logic Unit (ALU). In computing, the memory unit in which arithmetic, logic and related operations are performed.

ASP

ASP allows executable text to be embedded into HTML pages making content dynamic.

Bandwidth

The amount of information that can be passed through a medium in a given amount of time.

Bitmap

A display technique on a VDU/monitor in which the image is represented by an array of pixels, and the properties of the pixels are stored in the computer memory.

Buffer

In memory systems, an area of storage that is temporarily reserved for use in performing an input/output operation into which data is read or from which data is written.

Bullet

In word processing, large dots used to draw attention to paragraphs or to set them apart from the rest of the text.

Capacitor

A device designed to hold electrical charge in an electrical circuit.

CGI

CGI enables programs to run on web servers, often used for accessing and manipulating databases.

Compiler

In programming, a set of instructions that produces an executable program from the original source code.

Control unit

A part of the central processing unit that holds the instruction code of a computer.

Control bus

A bus used to select an area of main storage and to transmit signals to regulate computer operations.

Devices

Hardware components used to provide input, output or storage within a computer system.

Dialogue box

An enquiry and related response in an interactive session.

**DO****I.T.****Information Technology Foundation Course****APPENDIX****GLOSSARY ENTRIES****Embed**

To place elements such as clip art, graphs, photographs, sound, movies etc within a document.

Form

A document in which certain items have been precoded and against which variable information is entered.

Format

The defined structure in which the information is to be displayed.

Formula

Formulas are rules or facts that are expressed in symbols or numbers.

Hard return

In word processing, a command from the keyboard to terminate a set routine.

High level interfacing

High level facilities allow the user to manipulate files. Simple command line arguments can be called, such as:

- copy <filename>
- delete <filename> etc.

Input/output controller

The input/output controller or I/O, controls the input and output of data to and from a computer.

Indented

In word processing, to begin a line or paragraph with a blank space. In word processing systems a margin indent is usually handled automatically.

Insertion point

The point within a document where the cursor is positioned to manipulate text characters.

Java

Java is a platform-independent programming language based on C.

Low level interfacing

Low level facilities arise through an application (such as a word processing package) making use of MS DOS® to seek a text file to be loaded.

Multi-tasking

The execution of a number of tasks simultaneously.

Network

A system enabling two or more computers to communicate with each other.

Objects

In word processing, an article placed within the program to be displayed as part of a document.

**DO****I.T.****Information Technology Foundation Course****APPENDIX****GLOSSARY ENTRIES****Overlays**

The limited size of the memory provided noticeable limitations on the hardware of computer systems in the past, when attempts were made to load programs into the main memory that were too large. This resulted in the programs being divided manually into smaller segments that were then individually fed into the main memory. These smaller sections are called 'OVERLAYS'.

Passwords

A word or a series of letters and/or numbers which have to be input before the user can access certain files or areas (directories) of the hard disk.

Peripheral devices

A device under the control of the central processing unit, that performs an additional action in the system.

Pixel

In computer graphics, the smallest element of a display space that can be addressed. A picture element (pixel) will have one or more attributes of colour, intensity and flashing.

Raster

Where the scanning beam follows a path back and forth across the screen in a zig-zag shape in order to build up the picture.

Record

In databases, a collection of related data treated as a unit (e.g. details of name, address, age, occupation of an employee in a personal file).

Register

A memory device, usually high speed and of limited specified length, used for special purposes such as arithmetic operations.

Report

A program that can generate user-specified publications from a set of data.

Reveal codes

In word processing, the facility to produce formatting information on the screen previously concealed.

Search engine

A facility for searching for information or web pages across the Internet.

System software

Software written to operate or add basic utilities to a system.

Table

In databases, a data array organised so that each element can be located by its coordinates.

Terminal

An input/output device for transmitting and receiving data on a communication line.

**DO****I.T.****Information Technology Foundation Course****APPENDIX****GLOSSARY ENTRIES****Two's complement**

A method of representing a negative binary number. In this convention a binary number is negated by complementing the digits and then adding one to the result. The most significant bit is a sign bit (i.e. a one represents a negative number).

Unsigned

Unsigned variables have twice the range of signed variables but can only be positive or zero, but not negative.

Videoconferencing

A form of teleconferencing in which participants can view each other with the use of cameras.

Virtual memory

Virtual memory uses management controllers to increase the system memory by mapping sections to the hard disk using an LRU (least recently used) algorithm. This fools the application into believing that it has a lot of memory available.



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APPENDIX

DO I.T. CONTENTS



HARDWARE

1. Peripheral devices

Input Devices

Peripherals
 Input Devices
 Keyboard
 Mouse (1 of 2)
 Mouse (2 of 2)
 Joystick
 Digitising Tablet
 Touch Sensitive Screen
 Light Pen
 Space Mouse
 Digital Stills Camera
 Optical Mark Reader (OMR)
 Scanners
 Bar Code Reader
 Magnetic Reader
 Smart Cards
 Voice Data Entry
 Sound Capture
 Video Capture
 Input Devices Exercises

Output devices

Output Devices
 Visual Display Units (VDUs)
 VDU - Screen Resolution
 Printers
 Impact Printer
 Dot Matrix Printer
 Daisywheel Printer
 Non-Impact Printers
 Thermal Printers
 Laser Printer
 Laser Printer - How it works
 Ink Jet Printers
 Robots
 Machine Tool
 Voice
 Plotters
 Flatbed Plotter
 Drum Plotters
 Electrostatic Plotter
 Output Devices Exercises

Storage devices

Storage Devices
 Hard Disk
 Magnetic Tape
 Floppy Disk

Optical Disk
 Punched Cards & Paper Tape
 Storage Exercises

2. Logic gates

Computer Logic
 Logic Gates
 'OR' Gate
 'AND' Gate
 'NOT' Gate
 The Half Adder Circuit
 Computer Logic Example
 NOR gate
 NAND gate
 Exclusive OR (XOR) gate
 Logic Exercises

3. Processor & memory

Processor and Memory
 System Buses
 Central Processing Unit (CPU)
 CPU - Architecture
 CPU - Program Execution
 CPU - Control Unit
 Arithmetic Logical Unit (ALU)
 Registers (1 of 2)
 Registers (2 of 2)
 Fetch and Execute (1 of 2)
 Fetch and Execute (2 of 2)
 Performing a write operation
 Memory
 Random Access Memory (RAM)
 RAM types
 Static RAM
 Dynamic RAM
 Read Only Memory
 ROM Types
 PROMs
 EPROMs
 Processor and Memory Exercises

4. Range of computers

Range of Computers
 Embedded Systems
 Microcomputers
 Minicomputers
 Mainframe Computers
 Supercomputers
 Range of Computers Exercises



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APPENDIX

DO I.T. CONTENTS

HARDWARE CONTINUED



5. **G**enerations of computers

Generations of Computers

First Generation

Second Generation

Third Generation

Fourth Generation

Fifth Generation

Generation of Computers

Exercises

**DO****I.T.****Information Technology Foundation Course****APPENDIX****DO I.T. CONTENTS****SOFTWARE****1. Word processors**

Word Processors
 Hardware
 Applications
 Overview
 Creating a Document
 Inputting Text
 Selecting a Text Block
 Editing Text
 Find and Replace
 Formatting Text
 Fonts
 Page Layout - Orientation
 Page Layout - Margins
 Page Layout - Justify
 Page Layout - Spacing
 Page Layout - Indents
 Page Layout - Paragraphs
 Page Layout - Columns
 Page Layout - Show Codes
 Page Layout - Final Touches
 Advanced Tools
 Advanced Tools - Mail Merging
 Advanced Tools - Importing
 Objects
 Saving Your Work
 Returning to Your Work
 Printing Your Work
 Word processors Exercises

2. Spreadsheets

Spreadsheets
 Origins
 Applications
 Applications Example (1 of 2)
 Applications Example (2 of 2)
 What they do
 Calculate Data
 Analysing Data
 Presenting Data
 Worksheet
 Rows and Columns (1 of 2)
 Rows and Columns (2 of 2)
 Cells
 Moving about the worksheet
 Ranges
 Rows and Columns (1 of 2)
 Rows and Columns (2 of 2)
 Graphs
 Macros
 Example

Example - Layout
 Example - Enter Data
 Example - Formulas
 Example - The Result
 Spreadsheets Exercises

3. Databases

Databases (1 of 3)
 Databases (2 of 3)
 Databases (3 of 3)
 Example Applications (1 of 2)
 Example Applications (2 of 2)
 Key Terms
 Entities
 Tables
 Fields ((1 of 2)
 Fields (2 of 2)
 Records
 Forms
 Reports
 Primary Key (1 of 2)
 Primary Key (2 of 2)
 Foreign Key
 Queries
 Example - Setting up tables
 Example - Creating forms
 Example - Creating a query (1 of 3)
 Example - Creating a query (2 of 3)
 Example - Creating a query (3 of 3)
 Example - Creating a report
 Database Development
 Data Investigation (1 of 2)
 Data Investigation (2 of 2)
 Data Modelling
 Data Modelling Relationships
 Relationships - One to One
 Relationships - One to Many
 Relationships - Many to Many
 Data Modelling - Entities
 Data Modelling - Attributes and
 Fields
 Data Modelling - Library Model
 Example
 Databases Exercises

4. Desktop publishing

Introduction
 Features of DTP - Frames
 Features of DTP - Columns and
 Snaking
 Features of DTP - Kerning
 Advantages of DTP



**DO****I.T.****Information Technology Foundation Course****APPENDIX****DO I.T. CONTENTS****SOFTWARE****5. Systems software**

- Systems Software (1 of 1)
- Systems Software (2 of 2)
- Operating Systems
 - Types of Operating Systems - PC's
 - Types of Operating Systems - Mini & Mainframe
 - Mini & Mainframe - Batch Processing
 - Mini & Mainframe - Single Workstation Multitasking
 - Mini & Mainframe - Time-share Processing
 - Mini & Mainframe - Real-time Processing
- Operating Systems Services
 - Operating Systems Services - Initial Loading
 - MS-DOS - config.sys
 - MS-DOS - command.com
 - MS-DOS - autoexec.bat
 - Operating Systems Services - Loading Applications
 - Operating Systems Services - I/O Supervision
 - Operating System Services - File Management
 - Operating System Services - Protection Facilities
- Systems Services - Utilities
- Systems Services - Languages
- Systems Services - Database Management Systems (DBMS)
- GUI Operating Environment (1 of 2)
- GUI Operating Environment (2 of 2)
- Systems Software Exercises

**DO****I.T.****Information Technology Foundation Course****APPENDIX****DO I.T. CONTENTS****COMPUTER LANGUAGES****1. Introduction**

Introduction (1 of 3)
Introduction (2 of 3)
Introduction (3 of 3)

2. Language elements

Elements
Elements - Statements and Keywords
Elements - Variables
Elements - Sub-routines (1 of 2)
Elements - Sub-routines (2 of 2)
Elements - If...Then...Else (1 of 2)
Elements - If...Then...Else (2 of 2)
Elements - Loops
Elements - Cases

3. 1st & 2nd generation languages

First Generation
Second Generation
Mnemonics
Data Transfer
Memory Address
Shift Mnemonic
Jump Mnemonic
Store Mnemonic
Assembly Language Program

4. Compilers & interpreters

Compilers & Interpreters
Compilers (1 of 2)
Compilers (2 of 2)
Interpreters

5. 3rd to 5th generation languages

Third Generation (1 of 2)
Third Generation (2 of 2)
FORTRAN
C
BASIC
COBOL
Fourth Generation (1 of 4)
Fourth Generation (2 of 4)
Fourth Generation (3 of 4)
Fourth Generation (4 of 4)
Fifth Generation Languages
Prolog (1 of 3)
Prolog (2 of 3)
Advantages and Disadvantages (3 of 3)
Expert Systems (1 of 2)
Expert Systems (2 of 2)
Knowledge Based Systems

6. Stages of program development

Steps
System Analysis
Specification and Design
Program
Debug
Alpha Test
Beta Test
Delivering the Software

E exercises

Computer Languages Exercises

**DO****I.T.****Information Technology Foundation Course****APPENDIX****DO I.T. CONTENTS****DEVELOPING AN INFORMATION SYSTEM****1. Analysis**

Developing an Information System
Analysis (1 of 3)
Analysis (2 of 3)
Analysis (3 of 3)

2. Feasibility

Feasibility study (1 of 2)
Feasibility study (2 of 2)

3. Design

Design
Design - Outputs
Design - Inputs
Design - File design
Design - Hardware
Design - Software

4. Testing

Testing (1 of 2)
Testing (2 of 2)

5. Implementation

Implementation
Implementation - Direct
Implementation - Parallel Running

6. Documentation

Documentation
Documentation - User Guides
Documentation - Technical

E x e r c i s e s

Developing an Information System
Exercises

**DO****I.T.****Information Technology Foundation Course****APPENDIX****DO I.T. CONTENTS****INFORMATION REPRESENTATION****1. Information**

Information Representation
 Information and Data
 Information - Ticket Example (1 of 2)
 Information - Ticket Example (2 of 2)

2. Number systems

Number Systems
 Number Base
 Number Base or Radix
 Number Base - Example
 Number Base - Weights
 Binary - Bits
 Binary - Bits, Bytes and Nibbles
 Binary - Weights
 Binary - Binary & Decimal Numbers
 Binary - Decimal to Binary Conversion (1 of 6)
 Binary - Decimal to Binary Conversion (2 of 6)
 Binary - Decimal to Binary Conversion (3 of 6)
 Binary - Decimal to Binary Conversion (4 of 6)
 Binary - Decimal to Binary Conversion (5 of 6)
 Binary - Decimal to Binary Conversion (6 of 6)
 Binary - Decimal to Binary Conversion - a summary
 Decimal to Binary Conversion Exercise
 Binary - Binary to decimal conversion (1 of 2)
 Binary - Binary to decimal conversion (2 of 2)
 Binary - Binary to Decimal a summary
 Number Systems - Octal
 Number Systems - Hexadecimal

3. Codes

Codes
 Codes - Representing Character Sets
 Codes - Representing Characters (BCD)
 Representing Numerical Values - Unsigned integers
 Representing Numerical Values - Signed integers (1 of 2)
 Representing Numerical Values - Signed integers (2 of 2)
 Representing Numerical Values - Real Numbers

4. Computer arithmetic

Computer Arithmetic
 Computer Arithmetic - Binary Addition
 Computer Arithmetic - Binary Subtraction

E exercises

Information Representation Exercises

**DO****I.T.****Information Technology Foundation Course****APPENDIX****DO I.T. CONTENTS****NETWORKS****1. Types of network**

What is a Network?
Types of Network
Client/Server
Peer-to-Peer
Local Area and Wide Area Networks

2. Servers & security

Networks - Servers
Print Servers
Fileservers
Security

3. Data packets & connecting computers

Data Packets (1 of 2)
Data Packets (2 of 2)
Physical Connections
Physical Connections - Electrical
Cables
Electrical Cables - Coaxial cables
Electrical Cables - Twisted pair
cables
Physical Connections - Fibre Optic
Cables
Physical Connections -
Electromagnetic Waves
Physical Connections - NIC
Physical Connections - Modem

4. Topology & technology

Physical Topology of a Network
Topology - Bus
Topology - Star
Topology - Ring
Technologies - Ethernet
Technologies - Fast Ethernet
Technologies - Token Ring
Technologies - FDDI
Technologies - ATM (Asynchronous Transfer
Mode)

5. Protocols & elements

Network Protocols
Internet
Intranet
Other Network Elements
Other Network Elements - Repeaters
Other Network Elements - Bridges
Other Network Elements - Routers
Other Network Elements - Gateways

6. Advantages & disadvantages

Advantages

E xercises

Network Exercises

**DO****I.T.****Information Technology Foundation Course****APPENDIX****DO I.T. CONTENTS****INTERNET**

1. **W**hat is the internet?
What is the Internet?
2. **I**P & TCP/IP
IP and TCP/IP
3. **C**onnecting to the internet
Connecting to the Internet
4. **I**nternet services
Telnet
FTP
E-mail
Newsgroups
IRC
Gopher
WWW
5. **O**ther internet technologies
Other Internet Technologies
4. **E**xercises
Internet Exercises