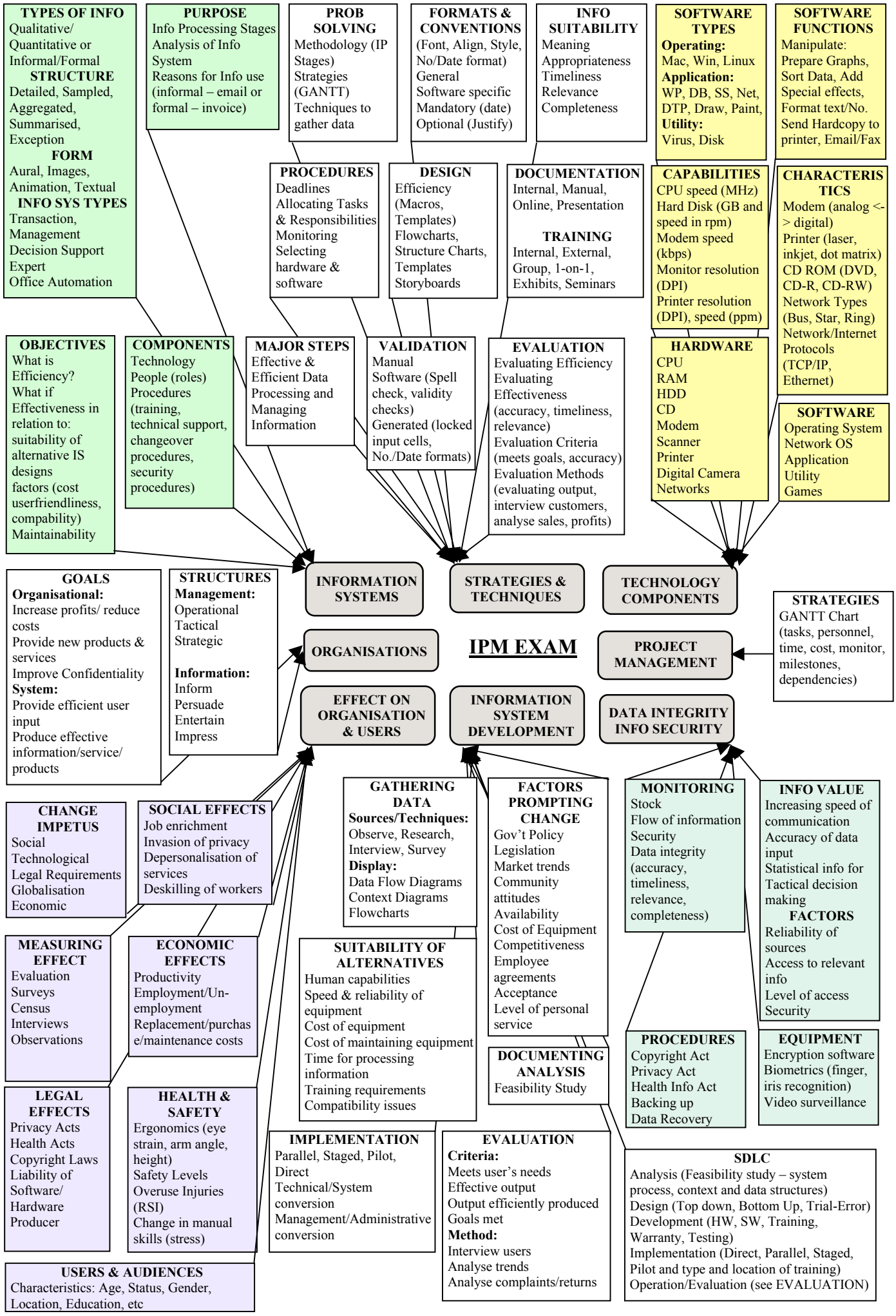

TYPES OF INFO
Qualitative/ Quantitative or Informal/Formal
STRUCTURE
Detailed, Sampled, Aggregated, Summarised, Exception
FORM
Aural, Images, Animation, Textual
INFO SYS TYPES
Transaction, Management Decision Support Expert Office Automation
PURPOSE
Info Processing Stages Analysis of Info System
Reasons for Info use (informal – email or formal – invoice)
PROB SOLVING
Methodology (IP Stages)
Strategies (GANTT)
Techniques to gather data
FORMATS & CONVENTIONS
(Font, Align, Style, No/Date format)
General
Software specific
Mandatory (date)
Optional (Justify)
INFO SUITABILITY
Meaning
Appropriateness
Timeliness
Relevance
Completeness
SOFTWARE TYPES
Operating:
Mac, Win, Linux
Application:
WP, DB, SS, Net, DTP, Draw, Paint,
Utility:
Virus, Disk
SOFTWARE FUNCTIONS
Manipulate:
Prepare Graphs, Sort Data, Add Special effects, Format text/No.
Send Hardcopy to printer, Email/Fax
PROCEDURES
Deadlines
Allocating Tasks & Responsibilities
Monitoring
Selecting hardware & software
DESIGN
Efficiency (Macros, Templates)
Flowcharts, Structure Charts, Templates
Storyboards
DOCUMENTATION
Internal, Manual, Online, Presentation
TRAINING
Internal, External, Group, 1-on-1, Exhibits, Seminars
CAPABILITIES
CPU speed (MHz)
Hard Disk (GB and speed in rpm)
Modem speed (kbps)
Monitor resolution (DPI)
Printer resolution (DPI), speed (ppm)
CHARACTERISTICS
Modem (analog <-> digital)
Printer (laser, inkjet, dot matrix)
CD ROM (DVD, CD-R, CD-RW)
Network Types (Bus, Star, Ring)
Network/Internet Protocols (TCP/IP, Ethernet)
OBJECTIVES
What is Efficiency?
What if Effectiveness in relation to:
suitability of alternative IS designs
factors (cost userfriendliness, compability)
Maintainability
COMPONENTS
Technology
People (roles)
Procedures (training, technical support, changeover procedures, security procedures)
MAJOR STEPS
Effective & Efficient Data Processing and Managing Information
VALIDATION
Manual
Software (Spell check, validity checks)
Generated (locked input cells, No./Date formats)
EVALUATION
Evaluating Efficiency
Evaluating Effectiveness (accuracy, timeliness, relevance)
Evaluation Criteria (meets goals, accuracy)
Evaluation Methods (evaluating output, interview customers, analyse sales, profits)
HARDWARE
CPU
RAM
HDD
CD
Modem
Scanner
Printer
Digital Camera
Networks
SOFTWARE
Operating System
Network OS
Application
Utility
Games
GOALS
Organisational:
Increase profits/ reduce costs
Provide new products & services
Improve Confidentiality
System:
Provide efficient user input
Produce effective information/service/ products
STRUCTURES
Management:
Operational
Tactical
Strategic
Information:
Inform
Persuade
Entertain
Impress
INFORMATION SYSTEMS
STRATEGIES & TECHNIQUES
TECHNOLOGY COMPONENTS
ORGANISATIONS
IPM EXAM
PROJECT MANAGEMENT
STRATEGIES
GANTT Chart (tasks, personnel, time, cost, monitor, milestones, dependencies)
EFFECT ON ORGANISATION & USERS
INFORMATION SYSTEM DEVELOPMENT
DATA INTEGRITY INFO SECURITY
CHANGE IMPETUS
Social
Technological
Legal Requirements
Globalisation
Economic
SOCIAL EFFECTS
Job enrichment
Invasion of privacy
Depersonalisation of services
Deskilling of workers
GATHERING DATA
Sources/Techniques:
Observe, Research, Interview, Survey
Display:
Data Flow Diagrams
Context Diagrams
Flowcharts
FACTORS PROMPTING CHANGE
Gov't Policy
Legislation
Market trends
Community attitudes
Availability
Cost of Equipment
Competitiveness
Employee agreements
Acceptance
Level of personal service
MONITORING
Stock
Flow of information
Security
Data integrity (accuracy, timeliness, relevance, completeness)
INFO VALUE
Increasing speed of communication
Accuracy of data input
Statistical info for Tactical decision making
FACTORS
Reliability of sources
Access to relevant info
Level of access
Security
MEASURING EFFECT
Evaluation
Surveys
Census
Interviews
Observations
ECONOMIC EFFECTS
Productivity
Employment/Un-employment
Replacement/purchase/maintenance costs
SUITABILITY OF ALTERNATIVES
Human capabilities
Speed & reliability of equipment
Cost of equipment
Cost of maintaining equipment
Time for processing information
Training requirements
Compatibility issues
PROCEDURES
Copyright Act
Privacy Act
Health Info Act
Backing up
Data Recovery
EQUIPMENT
Encryption software
Biometrics (finger, iris recognition)
Video surveillance
DOCUMENTING ANALYSIS
Feasibility Study
LEGAL EFFECTS
Privacy Acts
Health Acts
Copyright Laws
Liability of Software/ Hardware Producer
HEALTH & SAFETY
Ergonomics (eye strain, arm angle, height)
Safety Levels
Overuse Injuries (RSI)
Change in manual skills (stress)
IMPLEMENTATION
Parallel, Staged, Pilot, Direct
Technical/System conversion
Management/Administrative conversion
EVALUATION
Criteria:
Meets user's needs
Effective output
Output efficiently produced
Goals met
Method:
Interview users
Analyse trends
Analyse complaints/returns
SDLC
Analysis (Feasibility study – system process, context and data structures)
Design (Top down, Bottom Up, Trial-Error)
Development (HW, SW, Training, Warranty, Testing)
Implementation (Direct, Parallel, Staged, Pilot and type and location of training)
Operation/Evaluation (see EVALUATION)
USERS & AUDIENCES
Characteristics: Age, Status, Gender, Location, Education, etc

IT 3/4 **Due: _____** **EQUIPMENT 1** **Name:_____**

1. Identify the two parts of hardware (refer to IT@WORK, Page 212):
a). b).

2. Explain the function of each of the following parts of the **Central Processing Unit** (**CPU**) or **Microprocessor** (refer to IT@WORK, Page 212-213):
a). **Arithmetic Unit**: b). **Control Unit**:

3. Link the following terms with their descriptions (refer to IT@WORK, Page 214-219):

Item	Description
A). **Random Access Memory (RAM)**	(i). The circuit board on which the CPU, expansion cards and power are connected to
B). **Read Only Memory (ROM)**	(ii). A very large and powerful computer used to run simulations and to control networks in very large organisations
C). **Firmware**	(iii). A computer more powerful than a PC that is used as a File Server in medium sized organisations
D). **Bus**	(iv). Standard computer used in organisations, schools and homes containing a CPU, RAM, Hard disk drive, monitor, keyboard, mouse etc
E). **PCMCIA**	(v). The main computer in a network loaded with a network operating system to control access to files, programs & peripherals (printers, scanners etc)
F). **Parallel Port**	(vi). A bus system for transferring video and data at high rates (400 Mbps)
G). **Serial Port**	(vii). A type of Serial port that transfers data at fast rates and allows many devices (scanners, CD writers, modems, etc) to be connected at a time
H). **Universal Serial Bus (USB)**	(viii). A port that transfers data 1 bit at a time usually associated with a mouse, joystick or modem
I). **Firewire**	(ix). A port used for connecting printers that transfers data 8 bits at a time
J). **Server**	(x). Personal Computer Memory Card Internal Association expansion card for connecting external CD writers/readers, modems etc to laptops
K). **Microcomputer or Personal Computer**	(xi). Pathway for transferring data between components on the Motherboard and to peripherals
L). **Minicomputer**	(xii). Software instructions stored in the ROM
M). **Mainframe**	(xiii). Memory that can be read but not changed and is not volatile
N). **Motherboard**	(xiv). Memory that can be changed depending upon the program being used but is volatile – lost when power is turned off

A). = ____. **B). = ____.** **C). = ____.** **D). = ____.** **E). = ____.** **F). = ____.** **G). = ____.**
H). = ____. **I). = ____.** **J). = ____.** **K). = ____.** **L). = ____.** **M). = ____.** **N). = ____.**

4. Complete the following conversions (refer to IT@Work, Page 214):

a). 8 bits = _____ byte (a character – letter or digit). b). 1024 bytes = 1 _____ (kB).

c). _____ kB = 1 Megabyte (MB). d). 1024 MB = 1 Gigabyte (____).

e). 1 Terabyte (TB) = _____ GB.

f). 1 Megahertz = _____ cycles per second. g). 1 Gigahertz = _____ cycles per second.

h). If 1 Mbps = 1,000,000 bits per second and there are 8 bits in 1 byte, then 400 Mbps = _____ MBps.

5. Identify the RAM capacity, printer resolution and hard disk capacity in the following scenario (refer to IT@Work, Page 216 and 240):

An IBM Presario computer with 512 MB DDRAM, 80 GB Maxtor HDD, 17" XGA monitor, Tektronic 600 DPI B&W Laser Printer, soft feel keyboard, Microsoft Windows operating system and Microsoft Office.

RAM: _____. Printer: _____. Hard Disk: _____.

IT 3/4 **Due: _____** **GENERAL TERMINOLOGY 2** **Name: _____**

1. Provide definitions for each of the following:
a). **Information Processing** (refer to IT@WORK, Page 5).

b). **Steps of Information Processing** and list the nine steps in order (refer to IT@WORK, Page 6).

c). **Information System** (refer to IT@WORK, Page 8).

2. List the seven stages when solving Information Problems (refer to IT@WORK, Page 13).

3. Explain the difference between:
a). **Hardware** and **Software** (refer to IT@WORK, Page 9).

b). a **Procedure** and a **Technique** (refer to IT@WORK, Page 11 & 77).

4. Provide explanations and an example for each of the following software types (refer to IT@WORK, Page 10 & 220-224):
a). **System Software** Example:

b). **Application Software** Example:

c). **Utility Software** Example:

d). **Programming Languages** Example:

5. List four different forms of **Data** (refer to IT@WORK, Page 12 & 58):

6. Use the following scenario to identify the **Personnel, Equipment, Data** and **Procedures** that is being used to produce information:

Petra James is a Graphic Designer that uses an Apple iBook to edit scanned photographs. Her iBook contains 256 MB of RAM, 30 GB hard disk and a XGA Graphics card as well as the Macintosh Operating System OSX 10.2 and Adobe Photoshop 7.0. Photoshop has plugins to drive an Epson scanner to scan in photographs at a resolution of 1200 DPI and then its filters can be used to adjust the color balance, contrast and reduce any noise. Photoshop can also be used to save the file in a variety of different formats for use in Web Pages or in brochures and to print the file at high resolutions to any type of printer.

Personnel:

Equipment:

Data:

Procedures:

IT 3/4 **Due: _____** **HARDWARE & SOFTWARE 3** **Name: _____**

INPUT DEVICES:

1. Identify four pointing devices (refer to IT@WORK, Page 234-236):

a). b). c). d).

2. Identify three Source data devices (refer to IT@WORK, Page 236):

a). b). c).

3. Identify two Sound or Image or Video capture devices (refer to IT@WORK, Page 236):

a). b).

MANIPULATION TOOLS:

4. Identify four different software manipulation tools (refer to IT@WORK, Page 236-238):

a). b). c). d).

STORAGE DEVICES:

5. List the storage capacity for each of the following storage media (refer to IT@WORK, Page 238-239):

a). $3\frac{1}{2}$" Floppy Disk. b). Zip Disks (2 different sizes).

c). CD-R or CD-RW. d). DVD ROM.

OUTPUT DEVICES:

6. Identify two different types of Visual Display Units or Monitors (refer to IT@WORK, Page 240):

a). b).

7. Explain the difference in operation between an **Ink-Jet** and **Laser Printer** in terms of how it prints and speed (in pages per minute, ppm) and resolution (in Dot per inch, DPI) (refer to IT@WORK, Page 240-242):

Type of Printer	Mode of Operation	Speed	Resolution
Ink Jet			
Laser			

8. Identify three types of Sound, Image or Video Output devices (refer to IT@WORK, Page 242):

a). b). c).

COMMUNICATION DEVICES:

9. Define the following terms and list their respective transfer speeds (refer to IT@WORK, Page 243):

a). Modem: b). ADSL:

10. Identify four applications that would rely on the use of a modem (refer to IT@WORK, Page 243):

a). b). c). d).

11. Identify four different software tools that can be used with a modem (refer to IT@WORK, Page 245):

a). b). c). d).

12. Explain the difference between **Capability** and **Limitation** of different hardware and software tools (refer to IT@WORK, Page 245):

13. List five restrictions of some hardware & software to manipulate data (refer to IT@WORK, Page 248):

a). b). c).

d). e).

IT 3/4 **Due: _____** **INFORMATION 4** **Name: _____**

1. List three ways to convert unorganized **Data** into useful **Information** (refer to IT@WORK, Page 58):

2. a). Label the columns in the following table with the terms: **ASCII**, **BINARY** and **CHARACTER** (refer to IT@WORK, Page 61 & 62):

b	**b**	**01100010**

b). Determine the number of **BITS** (8 bits = 1 byte) & **BYTES** in the following Binary code: **0110001001100101**

3. a). List four sound formats and determine the size of the file for approximately 1 minute of sound (refer to IT@WORK, Page 63):

b). List two compressed image formats (refer to IT@WORK, Page 63):

c). Explain the difference between **Lossless Compression** and **Lossy Compression** (refer to IT@WORK, Page 63):

4. Explain the four **Characteristics of Information** (refer to IT@WORK, Page 64):

a). b).

c). d).

5. Provide an example of each of the five different forms of **Information** (refer to IT@WORK, Page 65):

a). Text: b). Numeric:

c). Image: d). Sound:

e). Multimedia:

6. Explain the difference between a **Format** and a **Convention** (refer to IT@WORK, Page 72):

7. Link the following terms to their meanings and an example (refer to IT@WORK, Page 72 & 108-112):

1). Format	A). User selected convention to make some details stand out	(i). Change the text colour
2). Mandatory Convention	B). Commonly used but not "compulsory" way to display specific document items	(ii). Company ABN & name at the top of invoice
3). Preferred Convention	C). Expected "compulsory" appearance/position of document items (could be prescribed by law)	(iii). Make hyperlinks blue and underlined
4). Optional Convention	D). Alters the appearance of the text, image, sound	(iv). Emphasise text using bold, italics & larger font size

1. = __D__ = _(i)_. 2. = _____ = _____. 3. = _____ = _____. 4. = _____ = _____.

8. List five characteristics of different **Audiences** (refer to IT@WORK, Page 98-104):

a). b). c). d). e).

IT 3/4 **Due: _____** **COMPATABILITY & CONVENTIONS 5** **Name: _____**

1. For each of the following Spreadsheet features, identify the convention used (refer to IT@WORK, Page 124):
a). Totals b). Number values

c). Headings d). Grand Totals

2. For each of the following Letter features, identify the convention used (refer to IT@WORK, Page 114-115):
a). ACN or ABN b). Date

c). Address of Sender d). Spaces after full stop

3. For each of the following Email features, identify the convention used (refer to IT@WORK, Page 113):
a). Use of Attachment b). Statement below Signature

4. For each of the following Web Page features, identify the convention used (refer to IT@WORK, Page 144-145):
a). Use of Fonts b). Navigation Bar

c). Length of Text d). Use of Logo or Pictures

5. Explain the Capabilities and Limitations of each of the following pieces of equipment. Refer to the speed, quality/resolution, features etc and compare this to the minimum standard (??) (refer to IT@WORK, Page 234-245 or Thursday Age Greenguide or Wednesday Herald Sun Connect or Computer Magazines):

Equipment	Capabilities	Limitations
a). 54 X CD ROM.		
b). 3.0 MP Digital Camera with 3 X Optical Zoom and 4 X Digital Zoom.		
c). 1440 x 720 DPI Colour Ink Jet Printer.		
d). HDTV		
e). 256 kbps/64 kbps ADSL Modem		

IT 3/4 **Due: _____** **INFORMATION PROCESSING 6** **Name:_____**

1. Explain five attributes that effective information should possess when produced (refer to IT@WORK, Page 73):
a). **Accuracy**:

b). **Clarity**:

c). **Timeliness**:

d). **Relevance**:

e). **Completeness**:

2. List the three attributes of **Data Integrity** (refer to IT@WORK, Page 77):
a). b). c).

3. List two methods of collecting (refer to IT@WORK, Page 77):
a). **Primary Data**. b). **Secondary Data**.

4. List four methods to input data (refer to IT@WORK, Page 80):
a). b).

c). d).

5. Link the following definitions to the type of Validity Checks (refer to IT@WORK, Page 82-83):

A). **Reasonableness**	(i). Proofreading for spelling, grammar, punctuation etc.
B). **Format Consistency**	(ii). Spell or Grammar checkers.
C). **Range**	(iii). Data entered is of the correct type. eg. Date for DOB field, $ for Cost field.
D). **Limit**	(iv). Data entered matches the data in a database table.
E). **Existence**	(v). Checks that some data has been entered. eg. ID Code for new invoice.
F). **Data Consistency**	(vi). Data entered is not too high. eg. Credit card limits.
G). **Data Type**	(vii). Data entered falls within an expected range. eg. Vic postcodes start with 3.
H). **Text**	(viii). Data is entered in an expected & consistent format. eg. 25/10/02 not 10/25/02.
I). **Manual**	(ix). Data entered conforms with expected data. eg. 2002 not 0202.

A). = ____. B). = ____. C). = ____. D). = ____. E). = ____. F). = ____. G). = ____. H). = ____. I). = ____.

6. Using specific Software types, provide five different ways in which data can be manipulated to form information (refer to IT@WORK, Page 85 & 88-89):
a). b).

c). d).

e).

7. Explain the three criteria used for evaluating **Software Functions** (refer to IT@WORK, Page 89):
a). Ease of Use:

b). Efficiency:

c). Effectiveness:

8. Explain the four purposes for producing **Information** (refer to IT@WORK, Page 97 & 98):
a). b).

c). d).

IT 3/4 **Due: _____** **MAINTAINING DATA INTEGRITY 7** **Name:_____**

1. List the three properties that data should possess to have data integrity (refer to IT@WORK, Page 264):
a). b).

c).

2. List three ways of obtaining data from **Primary Sources** (refer to IT@WORK, Page 266):
a). b). c).

3. List the four factors that should be considered when creating a survey (refer to IT@WORK, Page 266):
a). b).

c). d).

4. List six **Secondary Sources** of data (refer to IT@WORK, Page 267):
a). b). c).

d). e). f).

5. List the four factors that should be used to check Secondary Sourced data (refer to IT@WORK, Page 268):
a). b).

c). d).

6. Explain how each of the following can be used to prevent errors when entering data and where possible, try to include examples (refer to IT@WORK, Page 268-270):
a). **Validation**:

b). **Data Capture**:

c). **Verification**:

7. Link each of the following terms with their definition (refer to IT@WORK, Page 274-276):

Item	Description
A). **Static Data**	(i). Organised collection of data that can be searched & sorted
B). **Dynamic Data**	(ii). Immediate processing and updating of data as it is entered
C). **Transaction Processing**	(iii). Stored data that is updated over a period of time
D). **Database management System (DBMS)**	(iv). Stored data that does not change

A). = ____. B). = ____. C). = ____. D). = ____.

8. Explain the difference between **Archiving files** and **Deleting Files** (refer to IT@WORK, Page 276-277):

9. Explain the difference between creating a **Backup** & **Data Warehousing** (refer to IT@WORK, Page 282-285):

10. Angela is the secretary in charge of preparing memos & invoices and Petra is the Manager in charge of preparing reports & budgets. Currently on the C: drive, the following files exist in one large directory that is accessed by both Angela & Petra: *memo12003.doc, memo22003.doc,memo62003.doc, memo12004.doc, memo62004.doc, invoice2003.mdb, invoice2004.mdb, salesrpt2003.xls, salesrpt2004.xls, budget2004.xls.budget2002.xls*. Construct a Directory Structure diagram showing suitably named **Folders, Filenames**, **Filename Extensions** so that Angela & Petra can effectively access their required files (refer to IT@WORK, Page 175 & 280-281):

IT 3/4 **Due: _____** **PROTECTING DATA 8** **Name: _____**

1. Link each of the following threats to data with their definition (refer to IT@WORK, Page 286-290):

Item	Description
A). Accidental Corruption/Loss	(i). Data that is copied onto Removable media (floppy disk, zip or Jazz disk or CD ROM) without permission
B). Deliberate Hacking	(ii). The storage media develops surface flaws or the data is not copied onto the media correctly or there is a power failure so the data in RAM is lost
C). Deliberate Virus attacks	(iii). Programs that copy themselves to PCs or e-mails to allow unauthorised access or corrupt data such as boot programs, system files, data files etc
D). Equipment Failure	(iv). Illegally gains access to another computer, usually over the internet, to alter or erase files/data
E). Stolen Data	(v). Data is corrupted by formatting the disk or turning off the PC before shutting down or by deleting files & emptying the trash without checking

A). = ____. B). = ____. C). = ____. D). = ____. E). = ____.

2. List two examples of **Physical Barriers** and one **Software Barrier** that can be used for each of the following types of computers (refer to IT@WORK, Page 291-296):

	Physical Barrier	Physical Barrier	Software Barrier
a). **Counter top Computers**: (low security zone)	eg1:	eg2:	eg1:
b). **Office Computers**: (medium security zone)	eg1:	eg2:	eg1:
c). **File Servers**: (high security zone)	eg1:	eg2:	eg1:

3. Identify three examples of **Biometric** barriers (refer to IT@WORK, Page 292):

a). b). c).

4. Refer to the diagram 6.23 on Page 295 to identify three different **Software Barriers**:

a). b). c).

5. Explain three ways that user access can be controlled when **Logging** onto a network (refer to IT@WORK, Page 295):

a). b). c).

6. Explain the three types of **Restrictions** that can be applied to users on a network (refer to IT@WORK, Page 296):

a). b). c).

7. Explain the difference between using a file **Password** and **Encrypting** a file (refer to IT@WORK, Page 296-297):

8. Link each of the following methods of protecting an Information System with its definition (refer to IT@WORK, Page 297-299):

Item	Description
A). Software Firewall or Hardware Router Firewall	(i). Software designed to search and delete virii (virus), worms, Trojans from infected files & memory without damaging the contents of the files
B). Disk Locking programs	(ii). Software designed to control the access to specific directories or folders on hard disk drives on stand alone and networked computers
C). Anti virus programs	(iii). Software designed to control and prevent unauthorized data transfer between connected computers

A). = ____. B). = ____. C). = ____.

9. Describe the difference between a **Trojan Horse**, **Worm** and a **Code Bomb** (refer to IT@WORK, Page 288-289).

IT 3/4 **Due: _____** **PERFORMING BACKUPS 9** **Name: _____**

1. Explain how often each of the following backup types should be done (refer to IT@WORK, Page 302 & 300):
a). Full Backup. b). Incremental or Differential Backup

2. For each of the following data backup media, list their **capacity** (in MB or GB), **speed** (fast, medium or slow to write/read) and **reliability** (good/bad) (refer to IT@WORK, Page 301):

a). Floppy Disk: (i). Capacity: (ii). Speed: (iii). Reliability:

b). DVD-RW: (i). Capacity: (ii). Speed: (iii). Reliability:

c). Tape Drive: (i). Capacity: (ii). Speed: (iii). Reliability:

3. Link each of the following backup terms with their definition (refer to IT@WORK, Page 300-302):

Item	Description
A). **Magnetic Media**	(i). Only files that have changed since the last full or incremental backup are added to the backup medium
B). **Optical Media**	(ii). Only files that have changed since the last full backup are backed up onto the backup medium
C). **Full Backup**	(iii). Specifically chosen folders and files/applications are backed up on the backup medium
D). **Partial Backup**	(iv). All folders and files/applications are backed up onto the backup medium
E). **Differential Backup**	(v). Storage medium that relies on an Optical laser to read and write data such as a CD writer/burner
F). **Incremental Backup**	(vi). Storage medium that relies on magnetism to read and write data such as a Floppy disk or hard disk drive

A). = ____. B). = ____. C). = ____. D). = ____. E). = ____. F). = ____.

4. Circle the letters corresponding to suitable locations to store a backup (refer to IT@WORK, Page 302 & 300):
A). In a desk drawer in the same room as the file servers. B). In a desk drawer at the Administrator's house.

C). In a fire proof cabinet at the organization. D). On another computer in a different location.

5. How should the backup medium be labeled to ensure there is no confusion with its contents (refer to IT@WORK, Page 304 & 302):

6. Why should the backup medium be taken off site (refer to IT@WORK, Page 300-302):

7. Explain the difference between **Disk Mirroring** and **Site Mirroring** (refer to IT@WORK, Page 305 - 306):

8. Explain why **Transaction Logs** would be kept (refer to IT@WORK, Page 304-306):

9. What term is given to the procedure when the data on the backup medium is transferred back onto the relevant hard disk drive for use (refer to IT@WORK, Page 306):

10. Explain the purpose of an **Uninterruptible Power Supply** (**UPS**) (refer to IT@WORK, Page 307-308):

IT 3/4 **Due: _____** **ORGANISATION LEVELS 10** **Name: _____**

1. Refer to the **Organisational Chart** on Pg 44 and list the number of personnel who report to the
a). Finance Manager
b). Marketing Manager (be careful – there is more than one level connected to this).
c). Assistant Membership Manager
d). Accountant

2. For each of the following levels of Management, explain the types of Decisions that are made at each level and provide an example of each (refer to IT@WORK, Page 46-48 and 53-54):

Senior Management: Example:

Middle Management: Example:

Operational Management: Example:

Non Management Workers: Example:

3. Explain the difference between **Internal Sources** and **External Sources** of information (refer to IT@WORK, Page 49):

4. Briefly explain the five different **Structures** of Information (refer to IT@WORK, Page 51):
a). **Detailed**:

b). **Summarised**:

c). **Exception**:

d). **Sampled**:

e). **Aggregated**:

5. Define the term **Information Flow** <u>and provide an example</u> (refer to IT@WORK, Page 55):

IT 3/4 **Due: _____** **INFO SYSTEMS & SOFTWARE 11** **Name: _____**

1. Explain the difference between **Application Software** and **System Software** (refer to IT@Work, Page 220-222):

2. Categorise the following programs as **System Software**, **Application Software** or **Utility Software**:

a). Microsoft Excel (Spreadsheet). b). Norton Antivirus. c). Microsoft Windows 2000.

d). Ontrack Fixit. e). Mac OS X. f). Quickbooks Pro (Accounting).

3. Provide two examples of the following types of **Programming Languages** (refer to IT@Work, Page 223-224):

a). **Low Level Languages**: (i). (ii).

b). **High Level Languages**: (i). (ii).

c). **Web related Languages**: (i). (ii).

4. List four examples of procedures that can be used by personnel (refer to IT@Work, Page 226):

a). b).

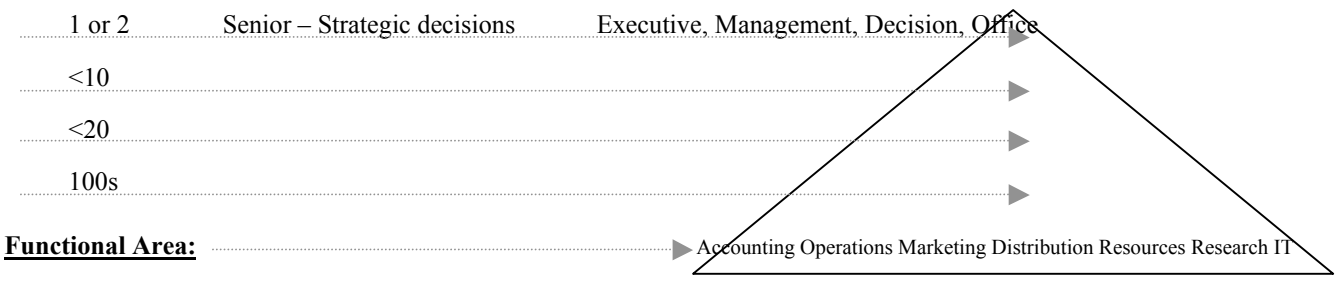
c). d).

5. Link each of the following types of Information System with their definition (refer to IT@WORK, Page 228-232):

Item	Description
A). **Transaction Processing**	(i). Program that uses human knowledge for simulations (Artificial Intelligence)
B). **Office Automation**	(ii). Assists Middle/Senior managers make decisions using summarized details.
C). **Management**	(iii). Used to solve unstructured problems by senior management
D). **Executive**	(iv). Used to produce regular reports on activities for/by senior managers.
E). **Decision Support**	(v). Processes and manages computerized documents.
F). **Expert**	(vi). Online or batch processing of day to day activities (invoices, orders etc).

A). = ____. B). = ____. C). = ____. D). = ____. E). = ____. F). = ____.

6. Complete the following diagram showing the Levels of Management (refer to IT@WORK, Page 233):



7. Identify the type of information produced by each of the different types of Information Systems (refer to IT@WORK, Page 232 & 51):

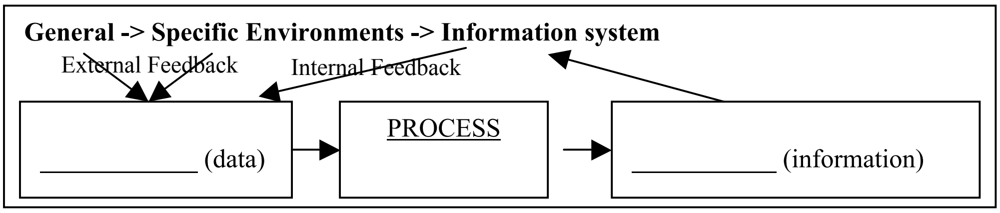
a). **Management**: b). **Transaction Processing**:

c). **Office Automation**: d). **Executive**:

e). **Decision Support**: g). **Expert**:

IT 3/4 **Due: ____________** **INFORMATION SYSTEMS 12** **Name: ___________________**

1. Complete the following **IPO** Chart (refer to IT@WORK, Page 195):



2. Identify three general goals that organizations attempt to improve (refer to IT@WORK, Page 198-200):

a).

b).

c).

3. Categorise each of the following as either contributing to improving **Efficiency** and/or **Effectiveness** (refer to IT@WORK, Page 198-200):

a). Reducing the time to enter data.

b). Reducing the number of customer complaints.

c). Decreasing the cost in producing products.

d). Training personnel to use specific procedures.

e). Using validation rules and testing procedures.

f). Using templates or scanners to enter data.

4. Link the following jobs with their descriptions (refer to IT@WORK, Page 206-209):

Job	**Job Description**
A). **System Analyst**	(i). Responsible for entering large amounts of data efficiently and effectively
B). **System/Hardware/ Software Engineer**	(ii). Provides telephone support of users and has knowledge of related hardware and software
C). **Software Developer**	(iii). Teaches users how to use hardware and software
D). **Programmer**	(iv). Repairs and services hardware and assembles new systems or upgrades existing systems
E). **Telecommunication Specialist**	(v). Responsible for starting/switching off PC, loading/unloading tapes/disks, supervising printing and notifying technicians of errors
F). **Internet Specialist**	(vi). Monitors and manages system/network/databases and develops procedures to ensure accurate and efficient data entry and management
G). **Tester**	(vii). Responsible for writing online and hardcopy documentation with the assistance of system analysts and programmers
H). **Technical Writer**	(viii). Tests new hardware and software for bugs and efficiency/effectiveness
I). **System/Network/ Database Administrator**	(ix). Designs Web based solutions (e-commerce/web sites/web databases)
J). **Operator**	(x). Designs networks (LAN, WAN) and analyses network traffic
K). **Technician**	(xi). Writes software (Operating system/Application/Utility software) using a set of specifications
L). **Trainer**	(xii). Customises pre written off the shelf software for specific tasks
M). **Help Desk Operator**	(xiii). Designs and develops hardware and some operating systems for information systems
N). **Data Entry Operator**	(xiv). Analyses problems and then plans, designs, develops, implements and evaluates new or upgraded Information System solution

A). = ____. **B). = ____.** **C). = ____.** **D). = ____.** **E). = ____.** **F). = ____.** **G). = ____.**

H). = ____. **I). = ____.** **J). = ____.** **K). = ____.** **L). = ____.** **M). = ____.** **N). = ____.**

IT 3/4 **Due: _____** **SDLC 13A** **Name: _____**

1. Link the stages of the **Waterfall Model** of the **System Development Life Cycle (SDLC)** to their description (refer to IT@WORK, Page 359-360):

A). **System Analysis**	(i). Evaluate performance of the new system and identify operational issues
B). **System Design**	(ii). Prepare user documentation, design and implement training and then change over to the new system
C). **System Development**	(iii). Acquire hardware, acquire and/or develop software and test the system
D). **System Implementation**	(iv). Develop alternative proposals for the physical design of the new system, then select the best alternative and create the system specifications for the new system
E). **System Evaluation**	(v). Construct the physical model and determine the logical model of the existing system and identify the new requirements of the new or upgraded system

A). = ____. B). = ____. C). = ____. D). = ____. E). = ____.

2. Explain the difference between the **Logical Design** and the **Physical Design** (refer to IT@WORK, Page 361 & 364-365):

3. Explain each of the following three areas that are identified and documented when performing the System Analysis stage (refer to IT@WORK, Page 363-364):

a). Determining the **System Context**:

b). Determining the **Processes**:

c). Determining the **Data Structures**:

4. Explain the difference between **Data Flows**, **Data Stores** and a **Data Dictionary** (refer to IT@WORK, Page 364):

5. Explain the five parts of the System that are considered in the Design stage (refer to IT@WORK, Page 366-367):

a). **Output Requirements**:

b). **Input Requirements**:

c). **Files & Databases**:

d). **Program Specifications**:

e). **Procedures**:

6. Identify two ways that a system designer can test the system, processes and procedures (refer to IT@WORK, Page 367-368):

a).

b).

7. In the System Development stage, explain the difference between **Purpose-Designed Software** and **Off-the-Shelf Software** (refer to IT@WORK, Page 369):

8. Identify six factors to consider when selecting off-the-shelf software (refer to IT@WORK, Page 369):

a).

b).

c).

d).

e).

f).

IT 3/4 **Due: _____** **SDLC 13B** **Name: _____**

1. Identify six factors to consider when selecting hardware for the development of the new/upgraded system (refer to IT@WORK, Page 370-371):

a). b).

c). d).

e). f).

2. Explain the difference between **System Testing** and **Acceptance Testing** (refer to IT@WORK, Page 371):

3. List four ways that the equipment and system management can be tested (refer to IT@WORK, Page 372):

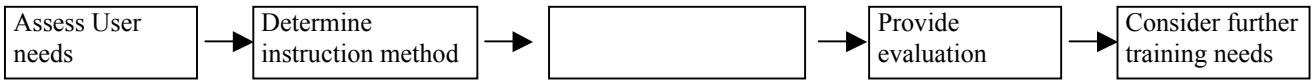
a). b).

c). d).

4. List three factors that should occur when implementing a new system (refer to IT@WORK, Page 373):

a). b). c).

5. Complete the following flowchart showing the stages for developing a training course (refer to IT@WORK, Page 374):



6. Explain four different types of training (refer to IT@WORK, Page 374-375):

a). b).

c). d).

7. Explain the advantages and disadvantages between **Inhouse** and **External** courses (refer to IT@WORK, Page 375):

8. Explain the contents of each of the following references (refer to IT@WORK, Page 378-379):

a). **Procedural Manual:** b). **Online Help:**

c). **Quick Reference Guide:** d). **Reference Manual** or **User Guide:**

9. Explain the advantages and disadvantages in each of the following **Changeover** methods (refer to IT@WORK, Page 380-381):

a). **Direct Conversion:** b). **Parallel Conversion:**

c). **Phased/Staged Conversion:** d). **Pilot Conversion:**

10. Identify nine criteria that could be used to evaluate system performance (refer to IT@WORK, Page 383):

a). b). c).

d). e). f).

g). h). i).

IT 3/4 **Due: _____** **INFORMATION PROBLEMS 14A** **Name:_____**

1. a). Explain what an **Information Problem** is (refer to IT@WORK, Page 149):

b). List four causes of Information Problems (refer to Activity 4.4 in IT@WORK, Page 152):

2. Explain the differences between using a **Trial and Error**, **Top down** or **Bottom Up** approach to solving a problem (refer to IT@WORK, Page 153-154):

3. Select from the 2nd and 3rd column a suitable Aim and set of Characteristics that matches the Step in solving a problem (refer to IT@WORK, Page 156-167):

Step in solving a problem	**Aim**	**Characteristics of step**
1). Formulating the Problem	A). Measure if the solution meets the user's needs	(i). Construct the solution using the most effective selection of hardware, software etc
2). Analysing the Problem	B). Make the solution ready for use	(ii). Research alternative hardware, software and procedures to be used using a detailed design
3). Designing the Solution	C). Write user documentation to assist users	(iii). Determine the input, required output and any constraints of the solution
4). Developing the Solution	D). Test the solution produces the required results	(iv). Examine current practices and identify all symptoms and causes of the problem
5). Testing the Solution	E). Transform the design into a solution	(v). Surveying & Interviewing users to determine the effectiveness of the solution to meet the user's needs
6). Producing User Documentation	F). Work and record the plan for developing the solution	(vi). Clearing out test data, setting up the required files, making files secure by controlling access
7). Implementing the Solution	G). Understand the problem	(vii). Produce User Documentation that explains the procedures for using the hardware & software, inputting data, validating and manipulating data, storing and retrieving files and producing the required output and fixing minor problems
8). Evaluating the Solution	H). Determine what the problem is	(viii). Conduct Formal and Informal Testing to test all aspects of the solution including data entry, validation and formats and output for relevance, errors, completeness, accuracy and timeliness

Defining a Problem: **Solving the Problem:**

1. = __H__ = _(iv)_. 2. = _____ = _____. **3. = _____ = _____. 4. = _____ = _____. 5. = _____ = _____.**

Using the Solution: **Evaluation:**

6. = _____ = _____. 7. = _____ = _____. **8. = _____ = _____.**

4. Summarise each of the four stages in Project Management (refer to IT@WORK, Page 167-173):

Defining the project: **Designing the project:**

Executing the project: **Terminating the project:**

5. Determine the duration of a **Milestone** shown in the **Gantt Chart** on Page 171 of IT@WORK.

IT 3/4 **Due: _____** **PROJECT MANAGEMENT 14B** **Name: _____**

1. a). Explain the difference between the **Waterfall** and the **Phased Development** model (refer to IT@WORK, Page 385):

b). Provide two reasons why building a **Prototype** of the new system is more advantageous than the **Waterfall** model (refer to IT@WORK, Page 385):

(i). (ii).

2. Use the **N-S chart** on the top left side of Page 386 to identify the six major steps in Project Management (hint: they are the ones without the bullets but one stage is explained twice):

a). b). c).

d). e). f).

3. Provide three characteristics for each of the following stages in project management (refer to IT@WORK, Page 386-394 and 169-173):

a). **Defining the project:**

(i). (ii). (iii).

b). **Preliminary Investigation:**

(i). (ii). (iii).

c). **Developing a broad plan:**

(i). (ii). (iii).

d). **Executing each stage:**

(i). (ii). (iii).

e). **Reviewing the project:**

(i). (ii). (iii).

f). **Terminating the project:**

(i). (ii). (iii).

4. Define the following terms (refer to IT@WORK, Page 390-392):

a). **Dependencies:** b). **Lag Time:**

c). **Lead Times:** d). **Float-time:**

e). **Critical Path:**

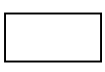
5. Refer to the PERT or CPM chart on page 392 in IT@WORK to identify the symbols used to signify:

a). A **Dummy:** b). A **Node:**

c). A **Task:**

6. Identify the purpose of using **Computer-Aided Software Engineering (CASE)** software (refer to IT@WORK, Page 394):

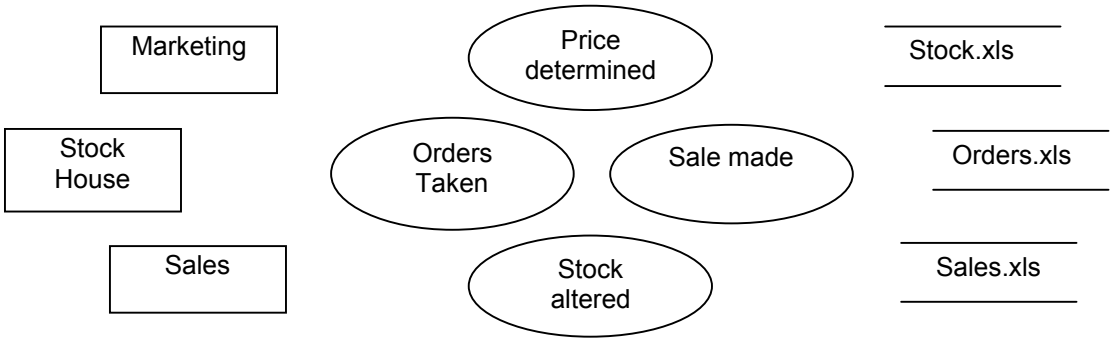
7. Identify the purpose of the following **Data Flow Diagram** symbols (refer to IT@WORK, Page 396 & 397):

a). b).  c).  d). 

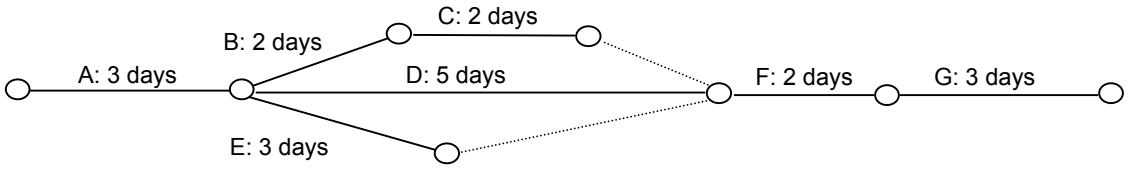
IT 3/4 **Due: _____** **PROJECT MANAGEMENT 14C** **Name: _____**

1. In the following Data Flow Diagram (DFD) (refer to IT@WORK, Page 396 & 397):
a). List the actual: (i). Files to store data. (ii). Departments using the data. (iii). the Processes involved.

b). Use Arrows to connect the related Departments, Files and Processes and where relevant include the events that occur on each arrow. Hint: Make connections between all related shapes & some may have multiple connections:



2. Use the following PERT chart to answer the following question (refer to IT@WORK, Page 390-392):



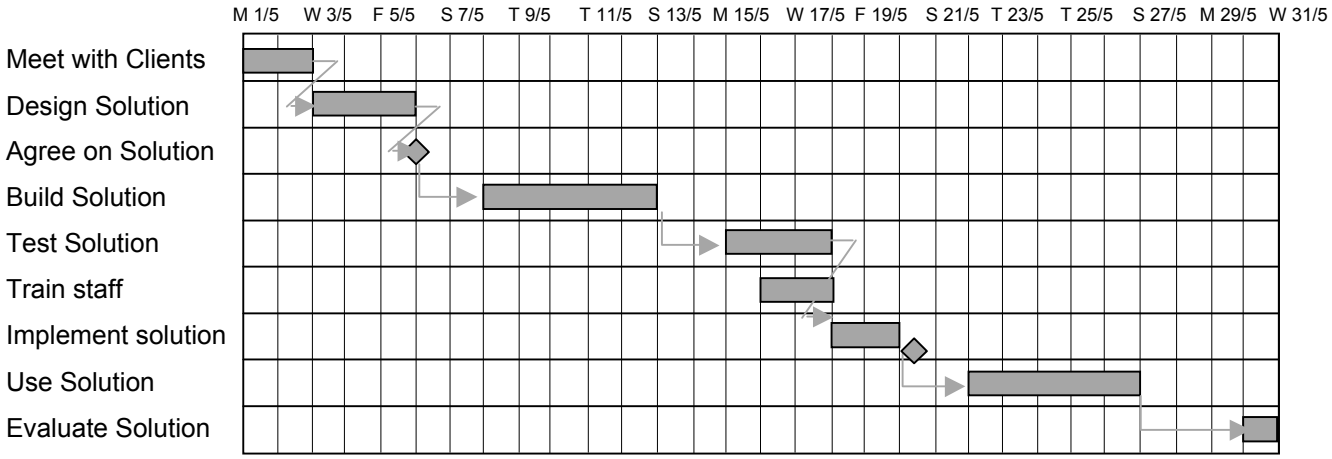
a). List the stages that make up the Critical Path and shade the Critical Path on the above diagram.

b). What is the minimum number of days required to complete the project (using the Critical Path)?

c). If task E was delayed by 1 day, what effect would this have on the Critical Path and the project duration?

d). If the project started on a Monday and the organization is not open on the weekend, at the end of which day would the project be completed if there were no delays?

3. Use the following GANTT chart to answer the following questions (refer to IT@WORK, Page 171, 389):



a). What was the overall duration (in weeks & days) of the project?

b). Identify a milestone that occurred during the project.

c). What task is not a Predecessor of any other task?

d). Which task provides "Lead Time" for the next task (excluding the weekend)?

e). If the implementation takes 1 day longer, what effect will this have on the project's expected end-date?

f). If the project had to be completed three days earlier, explain which tasks could be shortened and why.

IT 3/4 **Due: _____** **ORGANISATIONS 15** **Name: _____**

1. Link each of the following types of companies with their definition by writing in the letter code (refer to IT@WORK, Page 27-32):

Type of Organisation	Description
A). **Profit-based**	(i). Businesses with no more than 50 shareholders but can't sell shares to the public
B). **Not For Profit**	(ii). Businesses listed on the share market that can sell shares to the public
C). **Government owned**	(iii). Company that has limited liability owned by members for mutual benefits
D). **Non Government**	(iv). Companies with two or more people who pool their resources
E). **Sole Proprietors**	(v). Single owned business with or without employees
F). **Partnership**	(vi). Non profit organizations that employ paid volunteers – Salvation Army
G). **Proprietary Company**	(vii). Organisations owned by the government – Telstra, Human Services
H). **Public Companies**	(viii). Organisations that assist the community not for profit – schools, police
I). **Cooperatives**	(ix). Businesses whose purpose is to make large profits

A). = ____. B). = ____. C). = ____. D). = ____. E). = ____. F). = ____. G). = ____. H). = ____. I). = ____.

2. List five functional areas of Organisations and provide one example of their function (refer to IT@WORK, Page 32-33):

a). Example:

b). Example:

c). Example:

d). Example:

e). Example:

3. List three functions of **Organisational Goals** (refer to IT@WORK, Page 34).

4. Provide explanations for the seven types of **Goals** (refer to IT@WORK, Page 34-36):

(i). **Profit**:

(ii). **Growth**:

(iii). **Survival**:

(iv). **Effectiveness**:

(v). **Efficiency**:

(vi). **Competitiveness Edge**:

(vii). **Social Responsibility**:

5. a). Explain the difference between a **Goal**, an **Objective**, a **Policy** and a **Mission Statement** (refer to IT@WORK, Page 34-38):

b). Identify the Goal, Objective, Policy and Mission Statement in the following scenario:

Tryit Co is a small business that prides themselves in providing high quality Toys at cheap prices. They wish to increase their market share of plastic toys by introducing new toys from overseas markets at low prices. They will not be beaten on prices and will provide lifetime guarantees on all toys.

Mission Statement:

Goal:

Policy:

Objective:

IT 3/4 **Due: _____** **NETWORKS 16** **Name: _____**

1. Link each of the following Network terms with their definition (refer to IT@WORK, Page 248-259):

Item	Description
A). **Local Area Network (LAN)**	(i). Number of channels available for the transfer of data
B). **Wide Area Network (WAN)**	(ii). Protocol to transfer data to PC with token using twisted pair cable
C). **Gateway**	(iii). Card to connect a computer to the network using a network cable
D). **Bridge**	(iv). Protocol for the transfer of data on a network
E). **Nodes**	(v). Protocol for the transfer of data on the Internet/Intranet & networks
F). **Intranet**	(vi). High speed modem that controls the transfer of data on a network
G). **Extranet**	(vii). Network with no file server where workstations share their files with each other
H). **Peer-to-Peer Network (P2P)**	(viii). Intranet open to external sources for limited access
I). **Router**	(ix). Internal web-based network
J). **Transmission Control Protocol/Internet Protocol (TCP/IP)**	(x). Hardware devices on the network
K). **Ethernet**	(xi). Combination of hardware and software to convert protocols of different networks
L). **Network Interface Card**	(xii). Device with a processor to convert protocol signals from one type of network so it can be used by another type of network
M). **Token Ring (IBM)**	(xiii). Interconnected group of computers connected over very large distances usually by microwave, fibre-optic or satellite connections
N). **Bandwidth**	(xiv). Interconnected group of computers within a small area (business)

A). = ____. **B). = ____.** **C). = ____.** **D). = ____.** **E). = ____.** **F). = ____.** **G). = ____.**
H). = ____. **I). = ____.** **J). = ____.** **K). = ____.** **L). = ____.** **M). = ____.** **N). = ____.**

2. Explain the difference between a **Cable** and **Wireless** network system (refer to IT@WORK, Page 251):

3. List the transmission speed of each of the following Transmission Cables (refer to IT@WORK, Page 252):
a). **Twisted Pair** (many wires twisted in pairs):

b). **Coaxial Cable** (single core wire insulated from one other wire):

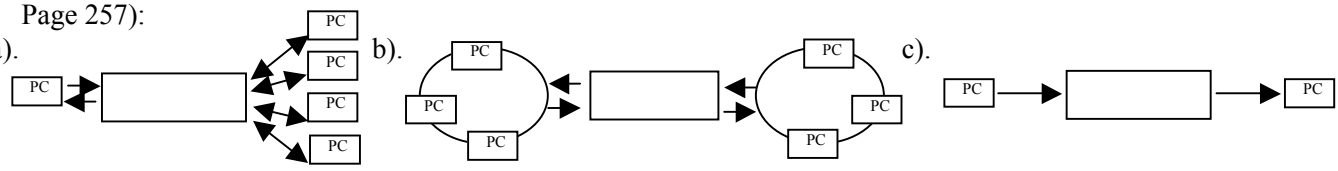
c). **Fibre-Optic** (glass fibres):

4. Identify three wireless transmission media (refer to IT@WORK, Page 252-253):
a). b). c).

5. Draw pictures to illustrate the arrangement of the PCs, File Server (if required) and any peripherals (printer/scanner) on each of the following network Topologies (refer to IT@WORK, Page 255-256):
a). **Bus Network**: b). **Star Network**: c). **Ring Network**:

6. Use the following Network Architecture diagrams to identify a **Switch**, **Hub** and a **Router** (refer to IT@WORK, Page 257):

a). b). c).



IT 3/4 **Due: _____** **LEGISLATION 17** **Name:_____**

1. Explain the difference between **Personal Information** and **Health Information** (refer to IT@WORK, Page 310):

2. Complete the following table by providing information about each of the following **Acts** (refer to IT@WORK, Page 309-318):

Name of Act	Jurisdiction	Type of Info	Key Provisions
Privacy Amendment (Private Sector) Act 2000	Commonwealth (private businesses)	Personal & Health information	1. 2. 3.
Privacy Act 1988	Commonwealth (federal and ACT – public sector)	Personal information	1. 2. 3.
Information Privacy Act 2000	State (Victorian public sector)	Personal information (not health) held by the public sector	1. 2. 3.
Health Records Act 2001	State (Victorian public & private health service)	Health information	1. 2.
Copyright Amendment (Digital Agenda) Act 2000	Commonwealth	Art, Literature, Music, TV/Sound broadcasts, Drama works, Films and Computer programs	1. 2. 3. 4. 5.

3. Link the following **National Privacy Principles** to their definitions (refer to IT@WORK, Page 312):

Item	Description
A). **Collection -** Acquire	(i). Individuals must consent for organizations to use their data unless laws require its acquisition
B). **Use & Disclosure** – Manipulate/Communicate	(ii). Data can be transferred to foreign countries by owners consent
C). **Data Quality** – Validate	(iii). Individuals do not have to identify themselves when providing data
D). **Data Security** – Store, Retrieve, Dispose	(iv). Records of individuals should not be identified by their name/number assigned from another organisation
E). **Openness** – Communicate	(v). Individuals can request access to their personal information to check it
F). **Access & Correction** – Acquire, Manipulate, Retrieve	(vi). Organisations must inform individuals on how organizations will manage their data
G). **Identifiers** – Storage, Retrieval	(vii). Organisations must take steps to protect all stored and disposed data
H). **Anonymity** - Acquire	(viii). Organisations must try to ensure all data collected/store is accurate, complete and up-to-date
I). **Transborder Data** – Communicate	(ix). Personal information must not be used for a secondary purpose and individuals must be given chance to opt out of receiving further material
J). **Sensitive Info** - Acquire	(x). Information collected must be for the stated purpose & collected fairly & lawfully

A). = ____. **B). = ____.** **C). = ____.** **D). = ____.** **E). = ____.** **F). = ____.** **G). = ____.**

H). = ____. **I). = ____.** **J). = ____.**

IT 3/4 **Due: ___________** **ETHICS & CHANGE 18** **Name:___________________**

1. Define the term **Ethics** (refer to IT@WORK, Page 319):

2. Rearrange the following steps in the Model of ethical Decision-making into the correct order (refer to IT@WORK, Page 320):

(i). Make a decision by selecting the preferred option and then accept responsibility for the decision.
(ii). Evaluate the options by identifying the strengths & weaknesses of each option, which option causes the least harm and which would be most agreeable to all stakeholders.
(iii). Identify Ethical Standards by checking the current laws and how it has been dealt with in the past and then identify any relevant morals or standards.
(iv). Identify each possible option that could be taken and predict the likely consequences of each option.
(v). Identify the decision maker and the stakeholders and list their interest.
(vi). Identify the problem by collecting the facts on the situation and then make a brief statement that contains the key decisions to be made.

A). = Step ___. **B). = Step ___.** **C). = Step ___.** **D). = Step ___.** **E). = Step ___.** **F). = Step ___.**

3. a). Name and describe the technique that can be used to check the presence of the same individual in more than one database system (refer to IT@WORK, Page 320):

b). Name and describe the term used to explain how technology and techniques can be used to identify new relationships between data (refer to IT@WORK, Page 321):

4. Identify eight different **Stakeholders** involved with organizations (refer to IT@WORK, Page 326):

a). b). c). d).

e). f). g). h).

5. Categorise each of the following causes and consequences as a **Social Impetus (SI)** (reason or stimulus), **Economic Impetus (EI)** or **Technological Impetus (TI) for change** (refer to IT@WORK, Page 331-355):

a). Government policies and legislation. ie. the introduction of Privacy Acts and security (Secure Socket Layer, SSL) on electronic transactions (Electronic Finance Transaction on a Point Of Sale terminal, EFTPOS).
b). Community values such as the introduction of e-commerce/health practices.
c). Increasing business competitiveness by introducing an e-commerce solution.
d). Increasing the number of products or improving customer service or improving the quality of products.
e). Having workers telecommute (work at home and transfer their work to the office location electronically).
f). Downsizing by reducing the number of employees and increasing the use of resources (usually IT).
g). Using IT to manage a large number of documents/files or to develop networks for the exchange of data.
h). Retiring (planned obsolescence) of outdated equipment.

a). _______. b). _______. c). _______. d). _______. e). _______. f). _______. g). _______. h). _______.

6. Provide six reasons why some businesses are reluctant to set up **e-commerce** (refer to IT@WORK, Page 340):

a). b).

c). d).

e). f).

7. Provide three advantages of **Telecommuting** instead of working at the office (refer to IT@WORK, Page 344):

a). b). c).