IT 3 APP **Due: _____** **EQUIPMENT** **Name: _____**

1. Research the following terms on the Internet to link the following terms with their descriptions:

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 Wireless Protocol for transferring data (data files or Internet files) over a network at high speed up to 50m
C). **Firmware**	(iii). A Protocol (language) for transferring data wirelessly (slowly) up to 10m
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, USB2)**	(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, bluetooth, modems etc to laptops
K). **Personal Computer (PC)**	(xi). Pathway for transferring data between components on the Motherboard to peripheral devices
L). **Bluetooth**	(xii). Software instructions stored in the ROM
M). **Wifi**	(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). = ____.**

2. Complete the following conversions (you may need to research information on the Internet):

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** (MHz) = _____ cycles/sec. g). 1 **Gigahertz** (GHz) = _____ cycles/ sec.

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

3. Identify the RAM capacity, printer resolution and hard disk capacity in the following scenario:

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: _____.

4. Using the advertisement below, identify the specifications of the:

Intel Pentium Core 2 Duo 2.16GHz, 1GB DDR2 RAM, 250GB Seagate HD, 8xDual Layer DVD Writer, nVidia GeForce 7600GT 256MB, 1xFireWire400, 3xUSB2, 10/100/1000Base-T, Wifi and Bluetooth 2.0

a). Storage devices:

b). Network Protocols:

IT 3 APP **Due: _____** **AN INFORMATION SYSTEM** **Name: _____**

1. Identify and explain the **five** components of an **Information System** (refer to IT APPLICATIONS, Page 3):

a). b).

c). d).

e).

2. What is **Input**? (refer to IT APPLICATIONS, Page 3):

3. What must be done to "raw" **Data** to turn it into useful **Information** (refer to IT APPLICATIONS, Page 3):

4. a). Refer to the Supermarket example on Page 3 and 4 of IT Applications to list at least one characteristic of each of the following Information System components:

(i). **Hardware**: (ii). **Data**:

(iii). **Personnel**: (iv). **Procedures**:

b). List one way in which the information about the items is validated.

c). In what ways are the customers involved in the transactions?

5. Link the following types of **Software** to their definitions (refer to IT APPLICATIONS, Page 4-6):

A). **System/Operation**	(i). Sets of codes/commands typed by programmer to perform different tasks
B). **Applications**	(ii). Programs to protect the computer or eliminate problems/errors
C). **Utility**	(iii). Programs to perform specific tasks used to produce useful information
D). **Programming Language**	(iv). Program(s) to provide the user interface and control the functions of the computer to perform all required tasks

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

6. Categorise each of the following software titles as **Operation**, **Application**, **Utility** or **Programming** software:

a). Microsoft Word b). Norton Utilities. c). Microsoft XP. d). McAfee VET.

e). C++ f). Limewire. g). Mac OS X. h). Media Player.

7. Provide the purpose and **ONE** example of these Hardware components (refer to IT APPLICATIONS, Page 6):

a). **Input Devices**: Example:

b). **Output Devices**: Example:

c). **System Unit**: Example:

d). **Storage Devices**: Example:

e). **Communication Devices**: Example:

IT 3 APP **Due: _____** **DATA AND INFORMATION** **Name: _____**

1. What are the **five** raw, unorganised types of **Data** (refer to IT APPLICATIONS, Page 6):

   a). b). c).

   d). e).

2. List **five** different types of **Personnel** that use or work with computers or **ICT** (Information and Communication Technology) (refer to IT APPLICATIONS, Page 7);

   a). b).

   c). d).

   e).

3. 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: Data:

   Equipment:

   Procedures:

4. a). Explain the difference between **Data** and **Information** (refer to IT APPLICATIONS, Page 7):

   b). Explain the difference between **Primary Data Sources** and **Secondary Data Sources** (refer to IT APPLICATIONS, Page 7):

5. Link the following properties of **Information** to their definitions (refer to IT APPLICATIONS, Page 8-11):

A). **Suitability/Relevance**	(i). The information is presented in the same way/format each time
B). **Reliability**	(ii). The information is clearly expressed
C). **Accuracy**	(iii). The information shows no favouritism towards one particular group
D). **Timeliness**	(iv). All of the information is complete – no omissions
E). **Completeness**	(v). The information is up-to-date
F). **Non-biased**	(vi). The information has no wrong details included
G). **Clarity**	(vii). The information was from a reputable and professional source
H). **Consistency**	(viii). The information relates to the topic and is in an adequate format

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

6. Research information in the newspaper or a magazine that is IRRELEVANT or UNRELIABLE or WRONG or OUT-OF-DATE or INCOMPLETE or BIASSED or UN-CLEAR or INCONSISTENT and attach it below:

IT 3 APP **Due: _____** **INFORMATION PROCESSING STAGES** **Name: _____**

1. Link the following properties of **Information** to their definitions (refer to IT APPLICATIONS, Page 11-14):

A). **Acquisition**	(i). The file containing the information is stored for later use or deleted
B). **Input**	(ii). The information is mailed, faxed or sent via email for discussion
C). **Validation**	(iii). The information is viewed on the screen (**softcopy**) or printed (**hardcopy)**
D). **Manipulation**	(iv). The file containing the information is opened for editing, printing etc.
E). **Storage**	(v). The information is saved to a relevant folder using appropriate filenames
F). **Retrieval**	(vi). The raw data is changed into useful information
G). **Output**	(vii). The raw data is checked for accuracy, completeness, consistency
H). **Communication**	(viii). The raw data is entered using a keyboard, mouse or scanner
I). **Archival/Disposal**	(ix). The raw data is collected from Primary or Secondary sources

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

2. For each of the Information Processing stages, provide **four** examples to represent the stage (refer to IT APPLICATIONS, Page 11-14):

   a). **Acquisition:**

   b). **Input:**

   c). **Validation:**

   d). **Manipulation:**

   e). **Storage:**

   f). **Output:**

   g). **Communication:**

3. List the **four** reasons for producing information (refer to IT APPLICATIONS, Page 14 and again on Page 16):

   a). b).

   c). d).

4. List the **three** characteristics of audiences (refer to IT APPLICATIONS, Page 16):

   a). b). c).

IT 3 APP Due: _____ PROBLEM SOLVING METHODOLOGY 1 Name: _____

1. **Collaborative Problem Solving** refers to establishing a team that can work well together to solve a problem. Each member should have equal rights, have access to all information, be respectful of the other team member's opinions and be flexible. The goals should be achievable and an achievable timeline set.

   a). Explain how a **Virtual Team** can collaborate to make decisions (refer to IT APPLICATIONS, Page 120):

   b). What type of software besides **Routing emails** is used by distanced team members to record their changes to a single planning document eg. Lotus Notes & Microsoft Word (refer to IT APPLICATIONS, Page 121):

2. An **Information Problem** requires the use of **Problem Solving Methodology** if the Organisation's goals are not being met. eg. Information is poorly communicated, incomplete, inaccurate or out-of-date etc. Link the following stages of Problem Solving to their definitions (refer to IT APPLICATIONS, Page 22 & 123-137):

A). **Analyse**	(i). Determine if the solution meets the needs of all users
B). **Design**	(ii). Install the solution, train the users to use efficient and effective procedures
C). **Develop**	(iii). Write the user-documentation for the solution
D). **Test**	(iv). Check the solution produces accurate and complete outputs
E). **Document**	(v). Build the solution using custom or off-the-shelf software
F). **Implement**	(vi). Create a plan to produce the solution, to train the users and install it
G). **Evaluate**	(vii). Define the problem that needs the solution

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

3. Identify each of the following as an example of either (refer to IT APPLICATIONS, Page 22-31 & 123-134):

   (i). **Analysing the problem**.

   a). Use Processing design tools: _____
   c). How is the output to be formatted: _____
   e). Determine the data requirements: _____
   g). Choose the required conventions/formats: _____
   i). Choose Layout diagrams/screen mockups: _____
   k). Develop a Test Plan & data for the solution: _____

   (ii). **Designing the solution**.

   b). Describe the type of organisation: _____
   d). Define the benefits of the solution: _____
   f). Consider the format of the solution: _____
   h). Identify the ineffective information: _____
   j). Describe how the organisation works: _____
   k). Define the Problem: _____

4. a). Explain the difference between a **Format** and a **Convention** (refer to IT APPLICATIONS, Page 26):

   b). Classify each of the following as a **Format** or a **Convention** (refer to IT APPLICATIONS, Page 26-28):

   (i). Making a heading bold: _____ (ii). Right align Spreadsheet numbers: _____
   (iii). Center page numbers: _____ (iv). Left align address in letters: _____
   (v). Use thick borders around tables: _____ (vi). Consistently use fonts and styles: _____

5. For each of the following, list **two** relevant conventions (refer to IT APPLICATIONS, Page 26-28, 155-156):

   a). Mailing Labels: (i). (ii).

   b). Quotations: (i). (ii).

   c). Bibliographies: (i). (ii).

   d). Numerical: (i). (ii).

   e). Graphs: (i). (ii).

   f). Reports: (i). (ii).

IT 3 APP Due: _____ PROBLEM SOLVING METHODOLOGY 2 Name: _____

1. **Developing a solution** to an Information Problem involves building the solution using the designs.
   a). Explain what is included in a **Test Plan** (refer to IT APPLICATIONS, Page 48):

   b). Summarise how to test a web site so it will be effective (refer to IT APPLICATIONS, Page 129-134):

2. Explain the difference between **Manual Validation** and **Electronic Validation** (refer to IT APPLICATIONS, Page 50-51 and 134):

3. Link the following definitions to the type of Validity Checks (refer to IT APPLICATIONS, Page 50-51, 157):

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). Enter data in an expected & consistent format. eg. 25/1/02 not 1/25/02.
I). **Manual**	(ix). Data entered conforms with expected data. eg. 2002 not 0202.

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

4. **User Acceptance Testing** is used to ensure the solution meets the needs of the users. Testing the solution ensures it is functional, useable, well presented and readable. Explain the difference between **Formal Testing** and **Informal Testing** (refer to IT APPLICATIONS, Page 60):

5. List **four** items that would be checked by testing the solution (refer to IT APPLICATIONS, Page 136):
   a). b).

   c). d).

6. **User Documentatio**n is created to assist the users to effectively use the solution to produce the required information. List **four** different types of User documentation (refer to IT APPLICATIONS, Page 66):

   a). b).

   c). d).

7. List **three** characteristics of "well-written" user documentation (refer to IT APPLICATIONS, Page 67):

8. Summarise the **Implementation Process** for using the new solution (refer to IT APPLICATIONS, Page 68):

9. The **Evaluation** process considers the efficiency (time/cost savings) and effectiveness (accuracy, completeness, relevance, etc) of the new solution (refer to IT APPLICATIONS, Page 70-71 and 137-138):
   a). After what period of time should the evaluation be done?

   _____

   b). Explain what should be done during the evaluation step:

IT 3 APP **Due: _____** **INFORMATION IN ORGANISATIONS** **Name: _____**

1. **Information Flow** relates to how information is communicated between different organisation departments and management levels. Refer to IT APPLICATIONS, Page 17 and 19 to:

   a). Draw Fig. 1-8 listing the **Levels of Management** & add the number of staff expected at each level:

   b). Using Fig. 1-9, add the **Types of Decisions** made by each level of management:

2. Link the following structures of Information to their definitions (refer to IT APPLICATIONS, Page 17-18):

A). **Detailed Reports**	(i). Identifies data outside the accepted range and requires action by managers
B). **Summary Reports**	(ii). Shows a small section of the detailed information for managers
C). **Aggregate Reports**	(iii). Shows detailed information that only relates to one area for managers
D). **Sample Reports**	(iv). Summary of detailed information showing totals or averages for managers
E). **Exception Reports**	(v). Shows all information about all aspects of the organisation for managers

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

3. For each of the following types of **Decisions** (refer to IT APPLICATIONS, Page 18-19 & 151), provide:
   (i). a definition. (ii). the approximate duration.
   (iii). the level of management it relates to. (iv). an example.

   a). **Strategic Decisions:**

   b). **Tactical Decisions:**

   c). **Operational Decisions:**

   d). **Day-to-day Decisions:**

4. Link the following Information Systems types to their definitions (refer to IT APPLICATIONS, Page 79-80):

A). **Transaction Processing System (TPS)**	(i). An Inference Engine (software) analyses data using facts & Expert rules called a Knowledge Base to make a decision or recommendation
B). **Office Automation System (OAS)**	(ii). Manipulate data (internal or from external sources) directly to create data models (what if scenarios) to make decisions
C). **Management Info System (MIS)**	(iii). Generates useful information for managing an organisation. Used with a Transaction Processing System, it can manipulate the data for analysis
D). **Decision Support System (DSS)**	(iv). Performs routine tasks using Word Processors, Databases etc (printing documents, tracking schedules, communicating between departments)
E). **Expert System (ES)**	(v). Processes data generated by the day-to-day transaction (billing, accounts payable, inventory control)

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

IT 3 APP **Due: _____** **PROJECT MANAGEMENT** **Name: _____**

1. a). Define the term **Project Management Plan** (refer to IT APPLICATIONS, Page 28):

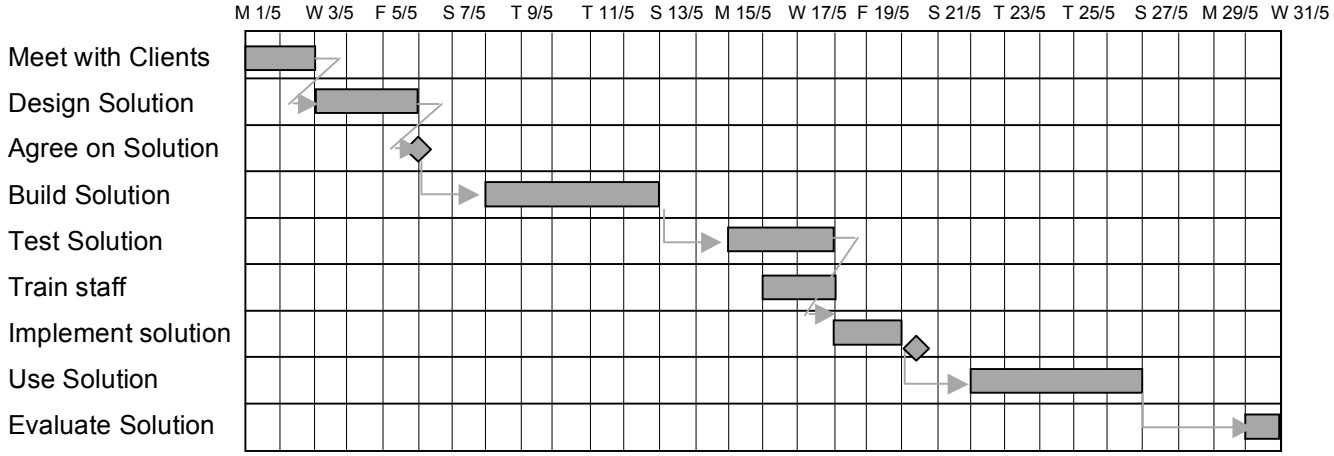
   b). Define the following terms (refer to IT APPLICATIONS, Page 29-31):

   (i). **Milestone**: (ii). **Predecessor**:

   (iii). **Lead Time**: (iv). **Lag Time**:

   (v). **Critical Path**:

2. Use the following GANTT chart to answer the following questions (refer to IT APPLICATIONS, Page 30):



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

   b). Identify a **Milestone** that occurred during the project.

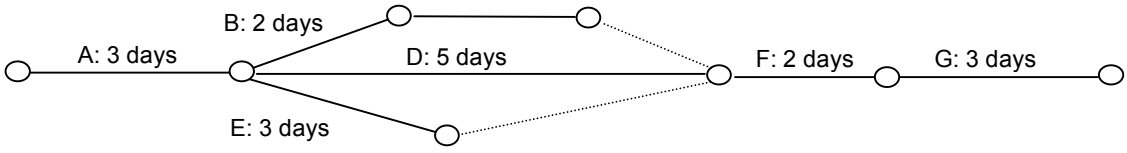
   c). What task is not a **Predecessor** of any other task?

   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.

3. Use the following PERT chart to answer the following question (refer to IT APPLICATIONS, Page 31):



   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?

IT 3 APP **Due: _____** **NETWORKS 1** **Name: _____**

1. Use the terms, **Network Traffic**, **Resources**, **Connect**, **Network/File Server**, **Conflicts**, **Share** and **Groupware** to complete the following definition of the term **Network** (refer to IT APPLICATIONS, Page 81-85):

   A Network enables computers to _____ together to _____ data and _____ (printers, scanners, Internet etc). The Network Operating System loaded on the _____ (main computer) controls the _____ and handles _____ so the data is communicated correctly. _____ programs can be used by many users to track changes in realtime. Without a network, data could be duplicated and inconsistent so it would need to be synchronised.

2. Explain the term **Remote Services** and provide an example (refer to IT APPLICATIONS, Page 82):

3. Explain the difference between a **Network Server** & a **Workstation** (refer to IT APPLICATIONS, Page 87):

4. Link each of the following Network terms with their definition (refer to IT APPLICATIONS, Page 86-97):

A). **Local Area Network (LAN)**	(i). Process instructions from more than one program at a time
B). **Wide Area Network (WAN)**	(ii). Protocol to transfer data to PC with token using twisted pair cable
C). **Network Architecture**	(iii). Card to connect a computer to the network (wireless or cabled)
D). **Hub (multi port eg. 8 port)**	(iv). Protocol for the transfer of data on a network
E). **Switch**	(v). Protocol for data transfer of on the Internet/Intranet & networks
F). **Nodes**	(vi). Placed at end of a network line to prevent signals bouncing back
G). **Intranet**	(vii). Network with no network server where workstations share their files (music, programs, data) in "shared folders" with each other
H). **Extranet**	(viii). Intranet open to external sources for limited access
I). **Peer-to-Peer Network (P2P)**	(ix). Internal web-based network
J). **Terminator**	(x). Hardware devices on the network that is able to share resources and communicate or share files with other devices/nodes.
K). **Transmission Control Protocol/Internet Protocol (TCP/IP)**	(xi). Stores the address of every device on the network so it transfers the signals to the correct device on the network (not every device like a hub) so it is more efficient than a hub
L). **Ethernet**	(xii). Transfers signals/data packets from some devices to ALL devices connected to the hub simultaneously so it "clogs" data flow
M). **Network Interface Card (NIC)**	(xiii). Network Design showing how the computers, devices and transmission media are connected
N). **Token Ring**	(xiv). Interconnected group of computers or LANS connected over large distances by microwave, fibre-optic or satellite connections
O). **Multitasking**	(xv). Interconnected group of computers within a small area (business) using cables or wireless hubs and network cards

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

I). = ____. J). = ____. K). = ____. L). = ____. M). = ____. N). = ____. O). = ____.

5. Explain the difference between a **Mail Server** and a **Print Server** (refer to IT APPLICATIONS, Page 87):

IT 3 APP **Due: _____** **NETWORKS 2** **Name:_____**

1. For each network type, draw a diagram of its **Topology** (arrangement of PCs, File Server (if used) & devices (printer/scanner etc)) & list its advantages & disadvantages (refer to IT APPLICATIONS, Page 91-93):

Type	Topology Diagram	Advantages	Disadvantages
STAR Network			
BUS Network (Also show a Terminator **T** at each end of the network line)			
RING Network or **TOKEN RING** Network			

2. What **two** types of network form a **Tree Network** (refer to IT APPLICATIONS, Page 92-93):

3. The **Intranet** is a type of Local Area Network that is similar to the Internet but is only accessible from INSIDE an organisation. List **four** benefits of the Intranet (refer to IT APPLICATIONS, Page 94):

   a). b)

   c). d).

4. There are several different methods of transferring data in a network called **Protocols**. Match the Protocol with the method by which the data is transferred (refer to IT APPLICATIONS, Page 95-98):

A). **Ethernet 1000BaseLX, 100BaseTX, 10Base2**	(i). **Wi-Fi** (Wireless) transfers data up to 50m using 802.11b standard at 11 Mbps, 802.11g at 54 Mbps using 2.4 > 5 GHz radio frequency
B). **Token Ring**	(ii). Internet Protocol to transfer data in small **Packets** to the recipient (using many paths). **Packet Switching** breaks data into segments and **Sequencing** reassembles the packets into the message. eg. 10.69.7.2
C). **Transmission Control Protocol / Internet Protocol (TCP/IP)**	(iii). One Token travels the network as either busy (carrying data and address) or empty (no data). Each node checks the Token for the recipient's address and the correct node takes it & "frees" the Token.
D). **802.11b, 802.11g, 802.11n** 1 character = 1 byte = 8 bits 1 Mbps = 1000000 bits/sec 1 Mbps = 125000 bytes/sec	(iv). Data Transfer Protocol using **Frames** (each with the recipient's address, sender address, frame type, data, parity (error) check). **10Base2** for Bus networks at 10 Mbps up to 500m with co-axial cable, **100Base-T** for a Star network at 100 Mbps up to 85m with twisted pair cable, **1000Base LX** for Star network at 1000 Mbps=1 Gbps up to 2km with fibre optics.

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

IT 3 APP **Due: _____** **NETWORKS 3** **Name: _____**

1. **Network Operating System** (eg. Windows Server 2003 or Mac OS X Server) is made up of **2** components. Explain the function of the **Server software** & **Client software** (refer to IT APPLICATIONS, Page 98-99):
   (i). Server Software: (ii). Client Software:

2. Different Application software can be used for Communication on a network. Identify what type of information is transferred using each of the following software (refer to IT APPLICATIONS, Page 99):
   a). **Electronic mail** (email): b). **File Transfer Protocol** (FTP):

   c). **Videoconferencing**: d). **Instant Messaging** used in Chat rooms:

3. Link each of the following Network terms with their definition (refer to IT APPLICATIONS, Page 100-104):

A). **Network Interface Card (NIC)**	(i). Sends and receives data using cable television network at up to 5 Mbps
B). **Wireless Access Point (AP)**	(ii). Transfers PC data in digital binary (0s,1s) in phone lines at up to 1½ Mbps. Binary data & analog phone calls can be sent at the same time
C). **Hot Spot**	(iii). Converts digital (0s,1s) PC data to analog sound for transfer in phone lines at up to 56 kbps. The remote modem reconverts sounds to 0s,1s
D). **Hub**	(iv). Connects several separate remote LANs into one WAN
E). **Switch**	(v). Sends incoming signal only to the device with required address since all Ethernet (MAC) addresses are stored
F). **Router**	(vi). Sends incoming signal to all connected (4 -> 8) devices until the right device receives it since no Ethernet (MAC) addresses are stored
G). **Dial-up (Analog) Modem**	(vii). Location where wireless device detects & connect to a network's AP
H). **(A)DSL or ISDN Modem**	(viii). Connects wireless devices (PC, PSP etc) to a wired/wireless network
I). **Cable Modem**	(ix). Card in a computer to connect it to the wireless or cabled network

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

4. **Transmission Media** refers to the material used to transfer data between network devices. For each type, provide (refer to IT APPLICATIONS, Page 104-108):
   a). the distance of data transfer b). the maximum transfer speed

   (i). **Twisted Pair** (8 wires twisted into 4 pairs) cable: a). b).

   (ii). **Coaxial** (Inner wire insulated from outer mesh wire) cable: a). b).

   (iii). **Fibre-Optic** (glass transmitting data as light pulses) cable: a). b).

   (iv). **Wireless** Radio waves transmitted at 2.4 GHz in line of sight: a). b).

   (v). **Microwaves** transmitted at 3 GHz to 3000 GHz in line of sight: a). b).

5. Link the following Network Security terms with their definition (refer to IT APPLICATIONS, Page 108-110):

A). **Physical Security**	(i). Encodes data into scrambled code using **Encryption Key** (code) - **Symmetrical** (key stored on sender & recipient's PC) or **Asymmetrical** (Public Key on recipient PC & Private Key on sender PC) or **WEP** (Wired Equivalent Privacy) for wireless network
B). **Usernames Passwords**	(ii). **Antivirus** to erase/quarantine **Spyware** (sends your info to other PC), **Adware** (show popup advertisements), **Trojan horse** (viruses inside programs), **Worms** (replicate & jam email servers) and **Viruses** (show messages or alter/delete files)
C). **Firewall**	(iii). Server with 2 NIC (1 accepts outside data, sends it to Firewall program for authentication which then sends it to the other NIC to internal PCs)
D). **Malware Protection**	(iv). Assigned to authorised user & password should be at least 8 characters long (digits & letters), not easily guessed & changed every month
E). **Encryption**	(v). Locks (key, touchpad or **Biometric** - eye, voice, finger scan) & doors/windows alarm

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

IT 3 APP **Due: _____** **NETWORKS 4** **Name: _____**

1. There are **2** parts to designing a network, the **Logical Design** where the structure of the network is considered and the **Physical Design** which maps out the actual position of each device on the network. For each of the following **Logical Design** factors, explain their **Implications** (refer to IT APPLICATIONS, Page 111):

   a). Ability to fulfil required functions:

   b). Applications (software):

   c). Cost:

   d). Security:

   e). LAN Protocol:

   f). Access to Information & Resources:

   g). Expansion Potential:

   h). Compatibility of Components:

2. There is an example of a **Physical Design** on Page 112. Use the diagram to answer the following questions:

   a). Name each of the **seven** Servers in the network:

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

   (v). (vi). (vii).

   b). What type of device is used to connect many PCs to the network? _____

   c). What type of device is used to connect many PCs to the Internet using an ISDN connection? _____

   d). What security device is used to prevent hackers on the Internet accessing data on the network? _____

   e). What network Topology is used? _____

   f). How does the Remote staff computer access the network? _____

   g). What transmission media should be used if the longest cable run is less than 85 m in length? _____

IT 3 APP Due: _____ MANAGING FILES – DATA INTEGRITY Name: _____

1. Link each of the data characteristics with its definition (refer to IT APPLICATIONS, Page 138-141, 245):

Item	Description
A). **Encryption software**	(i). Sequentially name file versions to avoid working on the wrong files
B). **Virus Detection software**	(ii). Rules to determine in which folders files should be stored and how to name files in terms of 3 letter extensions, spaces, date, length and relevant name
C). **Access Hierarchy**	(iii). Used to regularly create a copy of all/some files at another location
D). **Backups**	(iv). Refer to sections with different access privileges. eg. https for secure pages
E). **File Naming conventions**	(v). Anti-virus software searches for virus signatures in files and deletes the virus or quarantines the files
F). **Version Control**	(vi). Security software encrypts (encodes) data into scrambled code before being sent by sender and "key" used to decrypt it by recipient

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

2. Explain the characteristics of each type of Backup (refer to IT APPLICATIONS, Page 139-140, 245-247):

   a). **Full Backup**:

   b). **Differential Backup**:

   c). **Incremental Backup**:

3. For each of the following data backup media, research their **Capacity** (in MB or GB), **Speed** (fast, medium or slow to write/read) and **Reliability** (good/bad) (refer to IT APPLICATIONS, Page 235, 236 & 248):

   a). Hard 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:

4. Answer **True** or **False** to each of the following Backup features (refer to IT APPLICATIONS, Page 245-249):

   a). Backups should only be done at the start of each working day: _____
   b). Backups should be done on the previous day's/week's backup disk/tape: _____
   c). The first Full Backup should be done after an Incremental Backup: _____
   d). Backup files should be named with their contents and date: _____
   e). Backups should be stored off site and in a fire-proof lockable cupboard to avoid damage: _____
   f). Weekly Backups should only replace a backup from 2 weeks or more ago: _____
   g). Data Restored from a Backup file will overwrite (replace) data on the PC's hard drive: _____

5. Explain the difference between these pairs of terms (refer to IT APPLICATIONS, Page 248-250):

   a). **Archiving**: **Destruction** (Deletion):

   b). **Backup Plan**: **Recovery Plan** (Restoration of data):

IT 4 APP **Due: _____** **INFORMATION/ORGANISATION NEEDS** **Name:_____**

1. Explain what a **Strategic Plan** is (refer to IT APPLICATIONS, Page 151):

2. a). Explain the difference between a **Goal**, an **Objective** and a **Mission Statement** (refer to IT APPLICATIONS, Page 151-152 and 204):

   b). Identify the Goal, Objective, Policy (like a return 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. If there are any faults with the toys we sell, we will replace them free of charge.

   Goal:

   Objective:

   Mission Statement:

   Policy:

3. Link each of the following types of companies with their definition by writing in the letter code (refer to IT APPLICATIONS, Page 152):

Type of Organisation	Description
A). **Profit-based**	(i). Businesses listed on the share market that can sell shares to the public
B). **Not For Profit**	(ii). Company that has limited liability owned by members for mutual benefits
C). **Government owned**	(iii). Companies with two or more people who pool their resources
D). **Non Government**	(iv). Non profit organizations that employ paid volunteers – Salvation Army
E). **Partnership**	(v). Organisations owned by the government – Telstra, Human Services
F). **Proprietary Co.**	(vi). Organisations that assist the community not for profit – schools, police
G). **Public Companies**	(vii). Businesses whose purpose is to make large profits

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

4. List three Organisational Goals and two System Goals of an organisation (refer to IT APPLICATIONS, Page 152-153 and 205):

Organisational Goals	System Goals
(i).	(i).
(ii).	(ii).
(iii).	

5. Explain the difference between **Improving Efficiency** and **Improving Effectiveness** (refer to IT APPLICATIONS, Page 153):

IT 4 APP **Due: _____** **ORGANISATIONAL PROBLEMS** **Name:_____**

1. Explain each stage of the **Problem Solving Methodology** (refer to IT APPLICATIONS, Page 160-161):

   a). **Analyse:**

   b). **Design:**

   c). **Develop:**

   d). **Test:**

   e). **Document:**

   f). **Implement:**

   g). **Evaluation:**

2. The Information problems that exist in organisations occur for a number of reasons. Provide explanations of three reasons (refer to IT APPLICATIONS, Page 161-162):

   a). b).

   c).

3. Different methods can be used to show the structure of solutions to information problems in organisations. Provide examples of each of the following methods (refer to IT APPLICATIONS, Page 164-167 and 189):

a). **Structure Chart**	b). **Layout diagram**
c). **IPO Chart**	d). **Flow Chart**

4. Summarise the **five** steps that should be followed when evaluating software and include examples (refer to IT APPLICATIONS, Page 168-169 and 193-195):
   a).

   b).

   c).

   d).

   e).

IT 4 APP **Due: _____** **USER DOCUMENTATION** **Name:_____**

1. Match the following types of User Documentation with their features (refer to IT APPLICATIONS, Page 175-180):

Type of Documentation	Features Description
A). **On Screen User Documentation**	(i). In a program, when the cursor is moved to the correct spot over a menu command or over an icon, a help box is shown.
B). **User Guide / Instruction Manual**	(ii). Includes **Blogs** (Web Logs of users messages), **FAQ**s (Frequently Asked Questions), **Threads** (forum messages) & **Patches** (software updates)
C). **Quick Start Guide**	(iii). Built-in or stand-alone to provide searchable keywords to display help
D). **In-house User Documentation**	(iv). Step-by-step instructions with videos or sounds demonstrations on how to use key features in a program
E). **Read Me Files**	(v). Text or hypertext files that contain information to users about system requirements, trouble-shooting hints
F). **Tutorials**	(vi). Written by staff for employees to learn how to use an information system such as accessing files, naming files, where to print to, email protocols
G). **Help Files**	(vii). Text or hypertext brief simple instructions on how to use the equipment with links to more detailed information in the Use Manual
H). **Web Files**	(viii). Text or file (pdf/hypertext) on CD detailed instructions on how to use the equipment and solve problems as well as system requirements
I). **Tool Tips / Hint Boxes**	(ix). Help files shown on screen to provide instructions how to access functions, follow the correct procedures and solve problems

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

2. Define the following **On Screen Information Design** terms (refer to IT APPLICATIONS, Page 180-184):

   a). **Proportion**:

   b). **Orientation**:

   c). **Clarity**:

   d). **Consistency**:

   e). **Colors & Contrast**:

   f). **Whitespace**:

3. Match the following Characteristics of **On-Screen Information Products** with examples (refer to IT APPLICATIONS, Page 184-188):

Type of Documentation	Features Description
A). **Usability**	(i). Information must be relevant and recognise and accept common typos
B). **Font Selection**	(ii). Information must be read in common software. eg. Adobe Acrobat (pdf)
C). **Accessibility**	(iii). Information must be easy to locate (using many different procedures)
D). **Software Accessibility**	(iv). Serif (characters with "tails") are used to help guide the user's eyes
E). **Appropriateness / Relevance**	(v). The interface should be clearly laid out without too many buttons, flashing icons or colours and should be short in length

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

IT 4 APP **Due: _____** **ORGANISATIONS' LEGAL OBLIGATIONS** **Name:_____**

1. Match the following Privacy Acts with their features (refer to IT APPLICATIONS, Page 205-211)

Name of Act	Type of Info	Key Provisions
A). Privacy Amendment (Private Sector) Act 2000 At a National level - (private businesses)	(i). Art, Literature, Music, TV/Sound broadcasts, Drama, Films and Computer programs	1. Deals with electronic & manual versions of individual's information stored by non-government or private organisations including the content of emails. Websites must display a privacy policy regarding the data gathered by the site and how it is used. This led to developing the 11 **National Privacy Principles**: * Personal information must be collected for a lawful purpose. * The information collector must disclose why the information has to be collected, that is needed by law and that it is lawful. * Collected information must be relevant, up-to-date, complete and its collection must not intrude upon the individual. * If information is wrong, errors can be amended. * Records must be stored & safeguarded against loss, unauthorised access, use, modification or disclosure. * Record-keepers must control records & make it clear what information is stored, its purpose & how people can access it. * Individuals are entitled to see their information. * Information must not be used unless it has been checked for accuracy, timeliness, completeness & relevance to purpose. * Information may not be kept unless it is relevant. * Information may not be used for any purpose except for the intended purpose. * Personal information may not be disclosed to anyone else without consent.
B). Privacy Act 1988 At a National (federal and ACT – public sector) level	(ii). Health information	2. * Safeguards collection of Tax File Numbers (TFN) by federal agencies (the TFN system was updated when the "Australia card" was not accepted by the public. It does not regulate non government organisations or state/territory governments. * Protects individual's private information stored by federal government departments. * Protects people's credit-worthiness held by credit reporting agencies & credit providers.
C). Information Privacy Act (IPA) 2000 At a State - Victoria level	(iii). Personal information held by the public sector	3. Covers same areas as Privacy Act 1988 for Victoria using special versions of 10 of the National Privacy Principles but it allowed for the creation of a state privacy commissioner, provision of codes of practice relating to organisations or issues and strong compliance provisions. It does not cover Health information.
D). Health Records Act 2001 At a State - Victoria level	(iv). Personal information	4. Designed to fit inside the IPA (2000) to protect patient's medical information covering the public and private medical sectors so their doctors can access their test reports etc (Primary purpose) and then a hospital (secondary purpose) but not a third party (insurance company or another hospital) without permission.
E). Copyright Act 1968 & Amendment (Digital Agenda) Act 2000 At a National level	(v). Personal & Health information	5. Protects Intellectual Property (thoughts, printed material, videos, broadcasts, songs/music, computer programs/games = "Copyright"). There were exceptions listed in the Copyright Exceptions conducted in 2005.

A. = (v) = 1. B. = _____ = _____. C. = _____ = _____. D. = _____ = _____. E. = _____ = _____.

2. Explain the penalties for **Infringing Copyright** (refer to IT APPLICATIONS, Page 212-213):

IT 4 APP **Due: _____** **THREATS TO INFORMATION SYSTEMS** **Name:_____**

1. Match the following descriptions of ethics in the use of Information systems in organisations to their areas (refer to IT APPLICATIONS, Page 213-218):

Ethic Area	Description
A). Workplace Responsibilities	(i). Ensuring correct **Netiquette** such as posting to correct newsgroups, not advertising in newsgroups/blogs, not posting personal information & not **Flaming** the sender (criticise/insult the recipient of your email/blog)
B). Codes of Conduct	(ii). Managers may monitor email, PC use, web use (viewing logs & the content of **Cookies** that store web favourites & user information) and keys being pressed to ensure the appropriate work is being done. However, some monitoring can be unethical (monitoring toilet breaks)
C). Computer Use Policy	(iii). Document outlining what is permitted and not permitted to be done using a computer or peripheral equipment. eg. games during work
D). Employee Monitoring	(iv). A set of conditions to ensure there is an appropriate working behaviour
E). Free Speech on the Internet	(v). Employer to provide suitable environment & pay staff accordingly Employees to perform expected tasks and behave appropriately

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

2. Explain the difference between **Cracking** and **Hacking** and provide an example of each (refer to IT APPLICATIONS, Page 219-220):

3. Match the following descriptions of virii (virus) to their types (refer to IT APPLICATIONS, Page 219-220):

Ethic Area	Description
A). **Boot Sector**	(i). A virus hidden inside a file/program/emails to perform dangerous tasks
B). **Executable**	(ii). A virus that reproduces itself many times to jam servers (emails)
C). **Macro**	(iii). A virus is triggered if a particular event occurs in a PC to delete/alter files/data
D). **Time Bomb**	(iv). A virus is triggered at a particular time to delete/alter files/data
E). **Logic Bomb**	(v). A virus within a Microsoft Office file alters commands/functions or data
F). **Worm**	(vi). The virus runs before the program (.exe or .com) is loaded
G). **Trojan Horse**	(vii). A virus loaded into main memory & may destroy boot record of disks connected or file allocation table listing all files so PC can't boot

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

4. Explain the characteristics of each of the following threat (refer to IT APPLICATIONS, Page 222-226):

a). **Tampering with Files:**	b). **Information Theft:**
c). **Hardware Vandalism:**	d). **Hardware Theft:**
e). **User Error:**	f). **Not following File Management procedures:**
g). **Equipment Failure/Damage:**	d). **Consequences of violating security measures:**

IT 4 APP **Due: _____** **SECURITY EQUIPMENT 1** **Name:_____**

1. Match the following types of **Biometrics** (Human physical feature security types) to their meanings (refer to IT APPLICATIONS, Page 231-232):

Type of Biometrics	Description
A). **Voice Recognition**	(i). Compares 247 points in the person's iris to a prescanned version
B). **Fingerprint Recognition**	(ii). Compares 80 points on the person's face (distance between eyes, chinline and eye socket depth) to a prescanned version
C). **Hand Geometry**	(iii). Compares the person's signature to a prescanned version
D). **Signature Verification**	(iv). Compares the person's hand size and layout to a prescanned version
E). **Facial Recognition**	(v). Compares a person's fingerprints to a stored version to a resolution of 500 dpi
F). **Iris Recognition**	(vi). Compares a person's voice with their stored voice pattern

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

2. Explain the following **Physical Security Measures** (refer to IT APPLICATIONS, Page 232-233):

   a). **Swipe Cards**:

   b). **Smart Cards**:

   c). **Security Tokens**:

   d). **Power Protection**:

   e). **Avoiding System Failure**:

3. Explain the difference between a **Surge Protector** and **Uninterruptible Power Supply** (refer to IT APPLICATIONS, Page 233-234):

4. Explain the purpose of a **RAID** array (refer to IT APPLICATIONS, Page 234):

5. For each type of media listed below provide the number of examples listed in the brackets (refer to IT APPLICATIONS, Page 235-236):

   a). **Magnetic Media** (3):

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

   b). **Optical Drives** (2):

   (i). (ii).

   c). **Solid State Devices** (1):

   (i).

6. What is the term given for a backup to a secure and power protected Remote Server via the Internet using a **Storage Area Network** (**SAN**) system, RAID array, DVD, etc (refer to IT APPLICATIONS, Page 236):

IT 4 APP **Due: _____** **SECURITY EQUIPMENT 2** **Name: _____**

1. Explain each of the following types of **Surveillance** (refer to IT APPLICATIONS, Page 237-239):

   a). **Packet Sniffers**:

   b). **Desktop Monitoring Systems**:

   c). **Log Files**:

   d). **Closed-Circuit TV**:

   e). **Telephones**:

   f). **Audit Trails**:

2. List two examples of **Physical Security Devices** (refer to IT APPLICATIONS, Page 239):

   a).

   b).

3. Match the following software based security methods to their characteristics (refer to IT APPLICATIONS, Page 239-242):

Type of Security	Description
A). Encryption Software	(i). Software to delete/quarantine viruses by locating virus signatures
B). Network Policies	(ii). Hardware / Software to control user's access & viruses using the Internet
C). Firewalls	(iii). User has specific username and password to log onto the network
D). Anti-Virus software	(iv). Sender's Public key encrypts data using **Transposition** (mix letters), **Substitution** (use other letters), **Expansion** (add extra letters), **Compaction** (remove letters). Receiver's Private key then decrypts data

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

4. Explain each of the following procedures that should be followed to effectively communicate, store and dispose of data (refer to IT APPLICATIONS, Page 243-249):

   a). **Communication**:

   b). **Storage**:

   c). **File-Naming Conventions & Location of Files**:

   d). **Backups**:

   e). **Disposal**: