

## PSSC Computer Studies 1998 Finals – Marking Scheme

1. Which feature applies to a Personal Computer?  
c. It can operate by itself
2. Which of the following can be both an input and an output device on a computer?  
b. a floppy disk
3. UPS stands for  
b. Uninterruptible Power Supply
4. One common application used on a computer is  
a. word-processor
5. Files on a floppy disk will NOT be permanently damaged by.  
d. storing the disk in a dry cupboard
6. Which of the following sentences best describes the meaning of copyrighted?  
c. The buyer does not have the right to make copies of the software.
7. Many software publishers require codes to be entered into a computer before their software will work. These codes are to prevent piracy. Piracy includes.  
a. copying software so others can use it on their computer.
8. You try to save a document to a newly formatted disk in drive A. You get an error message stating this is not possible. What part of the disk must you adjust to correct this error?  
a. L.
9. Which directory structure shows the document MOTHER.DOC saved in the LETTERS directory on the A: drive?  
b. a:\letters\mother.doc
10. Boot instructions are often held in Read Only Memory (ROM). One advantage of ROM is that  
b. it cannot be accidentally overwritten
11. Many wordprocessors have a wysiwig display. Wysiwyg stands for  
a. What You See Is What You Get
12. The above three amounts of money and their total are written into a document. They have been aligned using what wordprocessing feature?  
c. a decimal tab has been inserted
13. A spreadsheet is a computer application that lets you.  
b. do repeated calculations
14. It is important that data in a spreadsheet is accurate. The first data integrity practice that anyone should use is.  
a. check that the data have been entered correctly.
15. You have a spreadsheet file open on your computer. You need to make a copy of the file onto the same disk. One way you could do this without quitting from the spreadsheet is to.  
c. use the SAVE AS command.
16. A certain spreadsheet is used to calculate logarithms. The answers are required to an accuracy of 6 decimal places. Which formatting feature will ensure all answers have 6 decimal places?  
d. Fixed
17. A database is a computer application that lets you.  
c. select information using a criterion
18. The best example of a database is.  
a. a telephone directory
19. Information in a database is valuable. It needs to be protected. One way of effectively protecting the data is to.  
d. use passwords which only authorised users know
20. The teacher wishes to construct a database to use instead of his record book. How many fields should be in the database of this class?  
c. 8

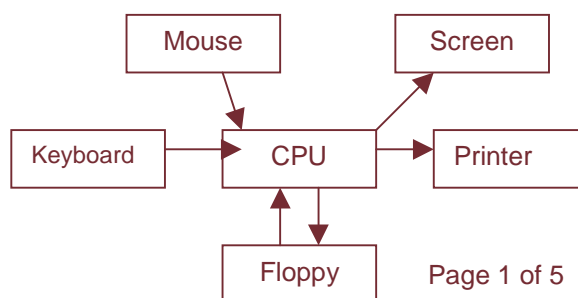
### Section B. Short Answer

1a. Here is a diagram showing six parts of a personal computer. Two parts have already been labelled. Write the name of the other four parts indicated by an arrow.

- A. Screen / Monitor / VDU
- B. Floppy Disk Drive
- C. Mouse
- D. Keyboard

1b. The six rectangles below represent the six parts shown in the above diagram. Write either the name

(or letter A, B, C, D) of one on part in each rectangle. Draw arrows on the diagram to show the way data flows between the parts of the computer.



1c. Suppose you turn on a computer. You hear the hard drive booting. After a minute the drive finishes booting but nothing appears on the screen in front of you.

(i) List one fault that could cause this to happen.

- (a) screen is not plugged into the computer
- (b) screen is not turned on.

(ii) Describe how you would fix this fault.

- (a) plug the screen into the computer
- (b) turn the screen on

1d. After getting the computer to work properly you start to use it. Suddenly it stops working. You cannot get it to work again, even after rebooting. When you take it to get repaired you learn that the computer was damaged by a voltage spike.

(i) Give one cause of spikes  
Lighting hitting the electrical lines

(ii) You get the computer fixed. What can you do to stop damage from future spikes.  
Install a spike protector or UPS

1e. Inside any computer is an operating system. Describe the purpose of the Operating System. An operating system handles (performs) at least these four major tasks: Memory Management, Process Management, Device Management, File Management.

The operating system manages the difficult task of managing the hardware to simplify work for

applications. When an applications needs to perform a task that requires any of the above the tasks then the application uses the operating system instead of having to talk to the hardware directly.

1f. Give the name of one Operating system available for personal computers.

- (a) MS-DOS, (b) Microsoft Windows 98 (c) Microsoft Windows NT (d) Linux (e) BSD

1g. One commonly used Operating System function lets users copy files. Write down two other operating system functions.  
(see question 1e)

1h. While using the Operating system to copy a file onto a floppy disk an error appears. The disk is NOT write protected. This message indicates that the task cannot be performed. Give one possible reason why this error message occurred.

- (a) Disk is bad (b) Disk is not in the drive (c) Disk is full (d) Disk is not formatted

1i. You need to create a floppy disk with which you can boot the computer. You have an unformatted floppy disk. Write down the process you go through to create such a boot disk.

- (a) Open the MSDOS Command Prompt and type Format a: /s
- (b) Click on Start | Settings
- (c) Double Click on Add / Remove Programs
- (d) Click on Start Up Disk
- (e) Click ok

## Question 2 – Personal Computer Systems and Management

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2ai. What does RAM stand for ?  
Random Access Memory

2aii. Describe the purpose of RAM in a computer. When a computer starts a program, it loads the program from the slower hard disk into faster RAM and then executes (interprets) the programs instructions. RAM is also used by the computer to store data it needs to use often.

Parts of the operating system are copied to RAM and kept there to speed operations.

2aiii. Explain why data in RAM is lost if the power supply fails.  
RAM stores data using electrical pulses, when electricity is turned off the electrical pulses are lost.

2bi. What device in the computer does the line 1.2GB HDD refer to?  
The Hard Disk Drive

2bii. Describe the purpose of having a HDD in a computer.  
The Hard Disk stores data, programs which are needed when the computer is turned on. HDD does

not lose data after electricity is turned off and is cheaper per storage space than RAM.

2biii. Explain why data held by a HDD is not lost if the power supply fails.  
HDD's store data using magnetic polarity (changing the state of the data point from magnetic north to magnetic south.) Magnetic polarity is not lost after electricity is turned off.

2ci. What does binary mean?  
Binary is a number system using only 2 digits. Binary numbers use 0 and 1.

2cii. What is the name given to one binary digit?  
BIT

2ciii. Explain how a binary digit and a byte are related?  
8 x bits is equal to 1 x byte

2di. What type of application did they use to make the picture of the piano?  
Graphics application.

2dii. What type of application did they use to assemble the completed article?

Desktop Publishing

2diii. After the students have this article completed they try to print it. They get an error message from the printer and the article does not print. Give one possible cause of the error.

- (a) The printer is out of paper, (b) The printer is not online (c) The printer is out of toner or ink (d) the printer is not connected properly (e) there is a paper jam.

2div. After fixing the printer error the students find that the paper keeps jamming in the paper feed mechanism. The paper has been stored in an ordinary classroom over summer.

- What climatic condition is causing the jamming problem?

Humidity

- What can the students do to overcome this problem?

Store the paper in a cupboard with a light bulb turned on. The light bulb will keep the cupboard dry.

2e. A business in Fiji has offered to print the newspaper at no cost. However the business insists that the finished document must be sent directly to their printer's computer (ie. It is not to be sent on paper). Explain how South Pacific High School could do this, and name both the hardware item and software application needed.

- (a) E-mail – The document could be sent by e-mail to the printer. Hardware needed: Modem, Application: E-mail Program
- (b) FTP (file transfer protocol) – The document could be sent via ftp. Hardware needed: Modem, Application: Ftp program

### Question 3 – Personal Computer Systems and Management

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ai. The poem is written in a font called Tempus sans ITC. How can you tell the title is written in the same font.

The first line of the poem has the same word (letters) and can be used to compare with the title.

aii. The poem is written in a font size of 12. Is the title a bigger or smaller font size?

- bigger

aiii Tempus sans ITC is a proportional font. What does this mean?

- Wide letters (w, m) take up more space than thin letters (i l )

bi Describe the format of the title of the poem.

- The title has been centered and underlined.

bii name the format of the word *apprehensive* in the poem.

- italic

c. The poem does not use wordwrapping. What has the author done to prevent wordwrapping from occurring?

At the end of each line, the author has hit the ENTER key to start a new line

d. The above poem is just one example of a document. Describe two advantages of using a wordprocessor to create such a document.

(think about this one, you should be able to list 4 or 5 advantages)

e. Some documents are very long and take many hours of work to create. An author creating a book does not want to lose all her hard work if a fault develops. Describe two things the author can do to keep her work safe.

- (a) Use a UPS to protect against power failure
- (b) Backup her files to a floppy

fi What is a computer virus

A computer virus is a program written to cause problems with how computers normally behave.

fii Describe one way in which computer viruses are spread.

- (a) when people share floppy diskettes
- (b) when people share files using a network
- (c) when people share files using e-mail and the internet

fi.iii. Describe one way you can protect a computer against viruses

- (a) do not let other people use floppy disks on your computer
- (b) use an anti-virus program to check files

gi. What is a computer program

A computer program is a sequence of instructions that a computer interprets

ii. Name two programming languages.

BASIC, COBOL, Java, C, C++, Perl

### Question 4 – Spreadsheets

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a. Give the name of a spreadsheet application that Blue Seas could use

Microsoft Excel, Corell Quattro Pro, IBM Lotus 123

b. Two different types of entry are used in cells A3 and B3. What data type is held in each of these cells?

Cell A3 : Label  
Cell B3: Value

ci. The figure \$5.00 appears in cell C3. However this is not what the Credit Union enters into this cell. Write a formula that could be used in cell C3

=B3 \* 0.05 -or- = B3 \* 5%

cii. Write a suitable entry for cell D3

=B3+C3 -or- =SUM(B3:C3)

d. In one year's time Julie's account will be updated again. This is done by copying and pasting cell C3 to E3 and cell D3 to F3. What will the cell entries E3 and F3 be? Your answers must be consistent with your answers for C3 and D3 in the previous question.

Cell E3 =D3 \* 0.05 -or- =D3 \* 5%  
Cell F3 =D3+E3 -or- =SUM(D3:E3)

e. Explain why this new layout will improve operations at Blue Seas as the number of Account Holders increases.

- The number of accounts can be easily added in the rows
- The interest rate does not have to be typed in all the time (minimising errors from typing)
- The interest rate can be changed in one location and effect all calculations

fi. Using only cell references, what formula should be entered into cell C3? (Use the spreadsheet shown on page 16)

= B3\*\$C\$1

fii. What function should be entered into cell B8  
= SUM(B3:B7) or SUM(B3:B5)

Note: The question requires using a function, so B3+B4+ ... will be wrong

g. Viliami's interest is \$12.3655. What number actually appears in cell C5.  
\$12.37 ← Spreadsheet rounding

h. What formatting feature has been applied to cells A2 to A11?

Indenting. In Microsoft Excel you indent using the toolbar indent (similar to Microsoft Word) or you go to the menu Format | Cells | Alignment select the Horizontal drop down list box and select Left (Indent) and then specify the indent size.

i. The Blue Seas Credit Union wants to make a pie chart. This is to show what proportion each customer has of the total deposits held. Describe the steps needed to create such a pie chart using the information in the spreadsheet on page 16.  
Select the range: A3:B5 (this selects the labels and the range to be charted)  
Select Insert Chart | and pick the Pie Chart

j. Blue seas wants to know what will happen to its business if interest rates increase to 6.5%. Describe what they must do to apply "what if" to their spreadsheet.  
Change the C1 from 0.05 to 0.065

k. The spreadsheet on page 16 is printed. What page orientation is most suitable for printing wide spreadsheets?  
Landscape

## Question 5 - Databases

ai. List the six items in the field containing the entry 2.5.81  
3.1.82 30.3.82 24.10.80 2.5.81 12.4.81 7.4.81

aii. List the six items in the record containing the entry 2.5.81  
Nettie, Physics, French, History, 2.5.81, \$10.00

aiii. What type of field is the DOB field?  
Date/Time

Aiv. Based on the data displayed above, what is the smallest possible size that the PUPIL field can be?  
7

b. Class rolls for option1 are made by sorting the option1 field. An ascending sort is applied to option1. Write down what the pupil and option1 field will look like after this sort.

Pupil	Option1
Finau	Biology
Ann	Biology
Lisiate	Economics
Bari	Economics
Nettie	Physics
Esther	Physics

c. The Principal wants to know who is doing History in Option3. She also wishes to know their Date of Birth. She wants to rank this class by age from the oldest students to the youngest one. Describe the steps she must take to apply a query which creates a report containing only the required data (note: A general description only is required. You are not expected to list the commands of any particular software package)  
Create a query that lists the fields Pupil, Option3, and DOB. Set a criteria in the query for History in Option3 and do a sort on the DOB field ascending

Print the query as the report or create a report from the query.

- d. The next day the principal needs to know the names of all those studying computers in option2, as well as those students who have paid more than \$42.00 in fees. She applies a suitable logical OR query to the database. List only the names of those students selected by the query.

Finau  
Bari  
Ann

ei. The Principal then wishes to list only the girls in the school but there is no such information in the database. Describe how the database should be changed to include the information.  
Add a new field for Sex (or another name can be Gender). Make this field a single letter field of either M for male or F for female

eii. Lisiate is a boy. Write down what his record looks like after the changes are made.

Lisiate, Economics, Chemistry, Geography, 30.3.82, \$15.00, M

- f. Using a computerised database has advantages over other non-computerised filing systems. Describe three of these advantages

**Data Integrity.** By having one location for the data, it is more convenient and easier to make sure that the stored data is correct. A database can also be set up to verify that input data is correct for the type of field.

Having only one location where a person's name is listed means you can make sure the name is correct for all reports.

**Data Sharing.** Computerised databases can be easier to share between a large group of people over vast locations. For example, the counters at the shopping centers all share the same pricing information, and the Travel agents share the same travel data/information available overseas.

**Data Security.** The computerised database can be shared with everyone, and only allow authorised people to make changes or to look at confidential reports in the database.

**Editing / Keeping the Data Current** By making changes in a single location all available data is kept up to date. Instead of having to change attendance records in different files (class roll, duty roll, etc.) changing it in one location means all information is current (up-to-date.)

**Tables** Tables can be created to store data. When new relevant information needs to be included in a database tables can be easily modified to include new fields.

**Query** Queries can be used to create custom views of the data. Custom views allow you to limit the data to only those items you want to see.

You can even sort the information so it is easier for you to find items.

**Reports** can be generated to display the information in a prettier format.