



**Victorian Certificate of Education  
2009**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

**STUDENT NUMBER**

Figures  
Words


Letter

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**INFORMATION TECHNOLOGY:  
IT APPLICATIONS  
Written examination**

**Tuesday 10 November 2009**

**Reading time: 3.00 pm to 3.15 pm (15 minutes)**

**Writing time: 3.15 pm to 5.15 pm (2 hours)**

**QUESTION AND ANSWER BOOK**

**Structure of book**

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	20	20	20
B	12	12	70
			Total 90

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is allowed in this examination.

**Materials supplied**

- Question and answer book of 19 pages.
- Answer sheet for multiple-choice questions.

**Instructions**

- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct, **and** sign your name in the space provided to verify this.
- All written responses must be in English.

**At the end of the examination**

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

**Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.**

**SECTION A – Multiple-choice questions****Instructions for Section A**

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1, an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

**Question 1**

Joe and Helen have to name the database for their queen bee breeding program.

The best filename from the list below is

- A. file1.
- B. databasefile1.
- C. joeandHelen.
- D. queenbreeding.

**Question 2**

The most appropriate user documentation to help students working in classrooms send their work to a networked colour printer in the school library is

- A. onscreen help.
- B. the colour printer manual.
- C. an email to the IT technician.
- D. a quick reference card on the colour printer.

**Question 3**

The *Information Privacy Act 2000* applies to Victorian

- A. advertisers using sports stars' images without permission.
- B. doctors emailing patient records to a drug company without permission.
- C. small businesses selling employee phone numbers to a telemarketing company.
- D. local governments or councils selling employee details to a telemarketing company.

**Question 4**

	A	B	C	D	E	F
1	Company Staff Wages					
2						
3	Week Starting					
4						
5						
6	StaffID	LastName	FirstName	HourlyRate (\$)	Hours Worked	
7						
8						

The design for a section of a spreadsheet shown above illustrates

- A. use of conventions.
- B. testing techniques.
- C. use of functions.
- D. data validation.

**Question 5**

The best design tool for representing the relationships between pages in the wiki on a website is a

- A. flow chart.
- B. storyboard.
- C. structure chart.
- D. screen mock-up.

**Question 6**

A milestone

- A. is shown as a circle in a Gantt chart.
- B. is a task that has to be completed before the next task can begin.
- C. indicates completion of a task that allows evaluation of the project to date.
- D. occurs when a number of tasks are done simultaneously creating spare time.

Use the following information to answer Questions 7–10.

Sue uses the spreadsheet below to monitor her monthly income and expenses.

	A	B	C	D	E
1		Jan	Feb	Mar	Apr
2	<b>Income (\$)</b>	\$	\$	\$	\$
3	Wages	2500	2700	2500	2700
4	Shares	50	40	30	40
5	Interest	10	50	20	30
6	<b>SubTotal Income (\$)</b>				
7					
8	<b>Expenses (\$)</b>				
9	Mortgage	800	800	800	800
10	Food	150	150	150	150
11	Car	1400	1400	1400	1400
12	<b>SubTotal Expenses (\$)</b>				
13					
14	<b>Total (\$)</b>				

### Question 7

The formula to calculate the **SubTotal Income** for January is

- A. SUM(B3:B5)
- B. SUM(B3:B6)
- C. =SUM(B3:B5)
- D. =SUM(B3:B6)

### Question 8

The **Total** amount of cash left to spend in February is most efficiently calculated in C14 by the formula

- A. C6–C12
- B. =C6–C12
- C. =C3:C5–C9:11
- D. =C9+C10+C11–C3–C4–C5

### Question 9

Typing the formula =IF(D12<D6,“HOORAY”,“ ”) in D13 returns

- A. HOORAY
- B. NO MONEY LEFT OVER
- C. “ ”
- D. “HOORAY”

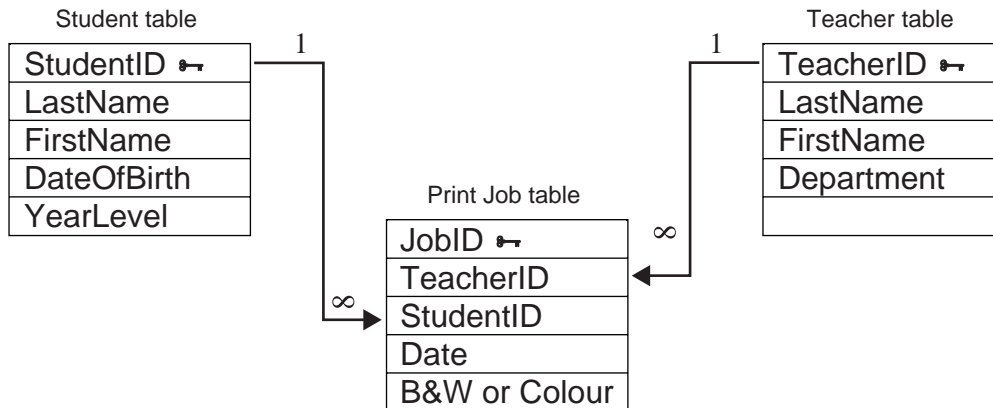
### Question 10

Cell protection is most appropriate for all Column A and

- A. B14:E14
- B. B3:E5 and B9:E11
- C. B6:E6 and B12:E12
- D. B6:E6 and B12:E14

Use the following information to answer Questions 11–13.

Senior Secondary College uses database management software to organise the teacher and student use of printers. The relationships between the Student, Teacher and Print Job tables are represented below.



### Question 11

In the one-to-many relationship between the Student table and the Print Job table

- A. one record in the Student table relates to many records in the Print Job table.
- B. one field in the Student table relates to many records in the Print Job table.
- C. one record in the Student table relates to many fields in the Print Job table.
- D. one field in the Student table relates to many fields in the Print Job table.

Below is a view of a section of the Student table.

StudentID	FirstName	LastName	DateOfBirth	YearLevel
920034B	Julie	Barnes	12/03/92	12
920037B	Ronald	Buchi	23/11/92	12
920041C	Karen	Chan	05/06/92	12
930021C	Harry	Conrads	17/04/93	11

### Question 12

In this view of the Student table **LastName** is a

- A. key.
- B. field.
- C. table.
- D. record.

### Question 13

Using a value list or drop-down list for **YearLevel** is an effective validation technique because

- A. clicking an option is faster than typing it.
- B. clicking an option is easier than typing it.
- C. the options can be easily modified at any time.
- D. it provides a list of options reducing data entry errors.

**Question 14**

John has designed a spreadsheet to provide quotes for lawn mower repairs.

Which is the most appropriate criterion to evaluate the efficiency of the spreadsheet solution?

- A. Is the information accurate?
- B. Is the information up to date?
- C. Does the spreadsheet provide quotes quickly?
- D. Are the labels used for the headings relevant?

**Question 15**

Sam has to recommend a type of transmission **media** to support communication between two buildings 6 km apart.

The most suitable media from the list below is

- A. microwave.
- B. Bluetooth.
- C. infrared.
- D. Cat 5e.

**Question 16**

Workers for a telephone help line use a computer system to key in details as each caller describes their problem. The computer provides a prioritised list of suggestions the worker can use to help the caller.

This is an example of

- A. an information management system.
- B. a transaction-processing system.
- C. an office automation system.
- D. a decision-support system.

**Question 17**

A task performed by a network operating system (NOS) includes

- A. saving a file to a laptop hard drive.
- B. authenticating users' access to the network printer.
- C. changing the mouse click speed for a new user at a workstation.
- D. displaying an alert when a flash drive is first plugged into a workstation.

**Question 18**

A costume warehouse sells its 200 products on an online website and uses database management software to create tables for the stock. Two products are shown below.

**Category table**

CategoryID	ProductName	ProductID	SerialNum
HATS003	Baseball Cap	345678	786543099-BC
HATS004	Soldier Helmet	345625	345234112-SH

Which design table uses the most appropriate data types for the Category table?

**A.**

CategoryID	Text
ProductName	Text
ProductID	Text
SerialNum	Number

**B.**

CategoryID	Text
ProductName	Text
ProductID	Number
SerialNum	Text

**C.**

CategoryID	Text
ProductName	Text
ProductID	Number
SerialNum	Boolean/Logic

**D.**

CategoryID	Text
ProductName	Boolean/Logic
ProductID	Number
SerialNum	Text

**Question 19**

The emergency plan within a disaster recovery strategy should include

- A.** evacuation procedures for backup files and a schedule for reinstalling software.
- B.** a schedule for reinstalling software and evacuation procedures for computers.
- C.** hardware shutdown procedures and evacuation procedures for backup files.
- D.** software supplier contact details and hardware shutdown procedures.

**Question 20**

Task X has 20 days duration and Task Y has 15 days duration. Task X is a predecessor of Task Y. Task Y cannot start until 10 days after Task X has finished.

If Tasks X and Y are on the critical path, the 10 days of delay for Task Y is called

- A.** lag.
- B.** lead.
- C.** start to start time out.
- D.** finish to finish time out.

**SECTION B – Short answer questions****Instructions for Section B**

Answer **all** questions in the spaces provided.

**Question 1**

- a. What is used to uniquely identify each record in a database?

\_\_\_\_\_ 1 mark

- b. Backing up a database file by saving only data which has changed since the last backup is called

\_\_\_\_\_ 1 mark

**Question 2**

- a.  $\text{Quantity} \times \text{Cost} = \text{Total}$  is used in spreadsheets.

Complete the Input-Process-Output (IPO) chart to represent this action.

Input	Process	Output
		<i>Total</i>

1 mark

- b. Using the example: 6 items at \$2.00 equals \$12.00

- i. what value(s) should be validated

\_\_\_\_\_

- ii. what value(s) should be tested?

\_\_\_\_\_

1 + 1 = 2 marks

**Question 3**

The Year 12 students at Country Secondary College have created a virtual private network (VPN) to organise the end-of-year barbecue. A committee of five students has decided to use an online chatroom where all Year 12 students can contribute to planning the location, music and food.

- a. Describe a security feature that will allow only current Year 12 students to read or join the chat.

\_\_\_\_\_ 1 mark

- b. The committee will use photos taken by parents of Year 12 students performing in the school's concert to promote the barbecue.

List two things the committee should consider before using these photos.

\_\_\_\_\_

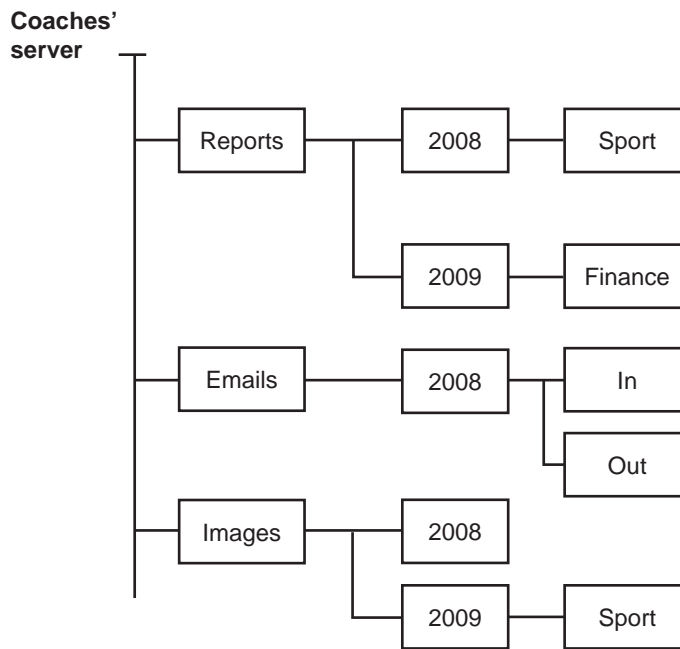
\_\_\_\_\_

2 marks



**Question 4**

Jack manages work files for a virtual team of coaches using the folders shown below.



- a. Write the directory path for a file X in the **Finance** folder shown.

\_\_\_\_\_

1 mark

Jack needs a new folder for netball photos used in this year's reports.

- b. Where on this diagram would you place this folder?

- i. Folder location

\_\_\_\_\_

\_\_\_\_\_

- ii. Justify your answer.

\_\_\_\_\_

\_\_\_\_\_

1 + 1 = 2 marks

Jack has received a file called winners.doc to check. It is marked Read Only. He asks the Help Desk how he can add new text and send an edited file back to the coaches.

- c. List the steps the Help Desk should advise Jack to follow.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

3 marks

d. The virtual team use an online application such as a wiki to write possible rule changes.

i. Describe how information is added to this online application.

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ii. Explain how the accuracy of the information is assured.

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1 + 1 = 2 marks

### Question 5

The **VROOM** racing car development team has drivers, pit crews and mechanics using a network to communicate during design and testing.

The network manager wants to use a **firewall** and **encryption** within a security plan to protect information communicated between the team members.

Describe the function of each and identify a weakness.

i. Firewall \_\_\_\_\_

---

Weakness \_\_\_\_\_

ii. Encryption \_\_\_\_\_

---

Weakness \_\_\_\_\_

2 + 2 = 4 marks

### Question 6

Jo uses a spreadsheet to manage customer data for selling downloaded music. CDs are mailed to customers who do not have an email address.

Jo wants to use a screen mock-up to represent the customer input screen.

a. List one advantage of using a screen mock-up.

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1 mark

Jo creates a macro to decide if customers receive an online download or are sent a CD in the mail.

b. Recommend a design tool Jo can use to represent the **IF** statement in the macro. Justify your answer.

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2 marks

**Question 7**

The owner of a new forensic laboratory will be responsible for many computer files used by the police. Each scientist's workstation will need physical, electronic and biometric security. Select **one** example from each type of security and describe how it protects the data and information on the workstation hard drive.

Physical	Electronic	Biometric
<ul style="list-style-type: none"> <li>• Window bars</li> <li>• Padlocked processor case</li> </ul>	<ul style="list-style-type: none"> <li>• User name</li> <li>• Password</li> </ul>	<ul style="list-style-type: none"> <li>• Iris scan</li> <li>• Voice recognition</li> </ul>

Physical example \_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

Electronic example \_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

Biometric example \_\_\_\_\_

Description \_\_\_\_\_

\_\_\_\_\_

3 marks

**Question 8**

A small secondhand car dealer in Victoria has a yearly turnover of over 3 million dollars. He collects, stores and disposes of car registration and drivers licence data as a normal part of selling cars.

- a. State a law which covers the car dealer's responsibility for this information.

\_\_\_\_\_

1 mark

- b. Describe a three-step procedure the car dealer must follow when collecting and storing this information.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

3 marks

- c. The registration and licence data is saved only to a flash disk.

Recommend an efficient method for correctly disposing of electronic copies of this information. Justify your choice.

\_\_\_\_\_

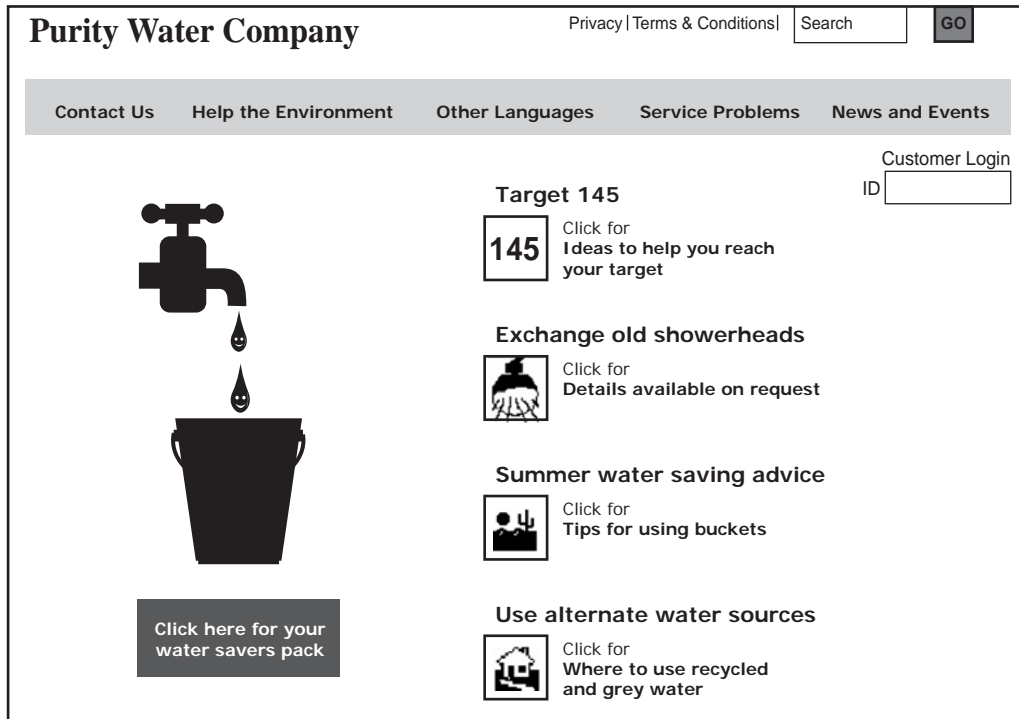
\_\_\_\_\_

\_\_\_\_\_

2 marks

**Question 9**

The screen shot shown below is a section of the home page of the Purity Water Company.



**Layout** and **Relevance** are two design elements to be evaluated in the website shown above.

a. Describe how each of these design elements have been applied in this website.

Layout \_\_\_\_\_

Explanation \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Relevance \_\_\_\_\_

Explanation \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3 + 3 = 6 marks

b. Identify one audience characteristic that has been considered when producing this website. Explain how it has been considered.

\_\_\_\_\_

\_\_\_\_\_

2 marks

SECTION B – continued

**Question 10**

Sections of the Gantt and PERT charts used to monitor a project are shown below.

Task	Duration (days)	Predecessor	Week 1							Week 2							
			M	T	W	Th	F	S	S	M	T	W	Th	F	S	S	
P	2		█	█													
Q	3	P			█	█	█										
R	4	P			█	█	█	█									
S	3	R								█	█	█					
T	1	S											█				

The start of the PERT chart created from the Gantt chart above is shown below.



a. Draw in tasks **Q R S** and **T** and complete this section of the PERT chart.

4 marks

b. i. Identify the tasks on the critical path and its length.

Tasks \_\_\_\_\_

Length \_\_\_\_\_

ii. Identify the task with slack time and state the length of the slack time.

Task \_\_\_\_\_

Length \_\_\_\_\_

2 + 2 = 4 marks

**Question 11**

UPod is an online company selling podcasts. The table below is used by UPod to keep track of its stock.

**Podcast: Table**

ProductID	Product Name	Supplier	Category	Unit Price \$	Units in Stock	Reorder Level
1	Podcast 1	Exotic Podcasts	Metal Concerts	18.00	23	20
2	Podcast 2	Picatooth Podcasts	Pop Concerts	10.00	14	15
3	Podcast 3	Bunny Podcasts	Classical Concerts	97.00	23	20
4	Podcast 4	Picatooth Podcasts	Pop Concerts	21.30	34	30
5	Podcast 5	Picatooth Podcasts	Pop Concerts	16.50	56	30
6	Podcast 6	Bunny Podcasts	Classical Concerts	38.00	24	20
7	Podcast 7	Bunny Podcasts	Folk Concerts	9.00	35	25
8	Podcast 8	Specialty Podcasts	Musicals	75.00	28	20
9	Podcast 9	Specialty Podcasts	Musicals	12.00	19	15

- a. i. Which field could be used to locate the number of podcasts in stock?

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- ii. Which fields could be used to calculate the total value of podcasts in stock?

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1 + 2 = 3 marks

- b. Write a query or search rule to show the podcasts supplied by Bunny Podcasts.

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1 mark

- c. The manager of UPod needs to know when stock gets to the reorder level.

- i. Write the rule for a query or search that returns a reorder alert message.

---

- ii. Provide test data that sets off this reorder alert message.

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1 + 1 = 2 marks

The table below stores details of UPod's Australian suppliers.

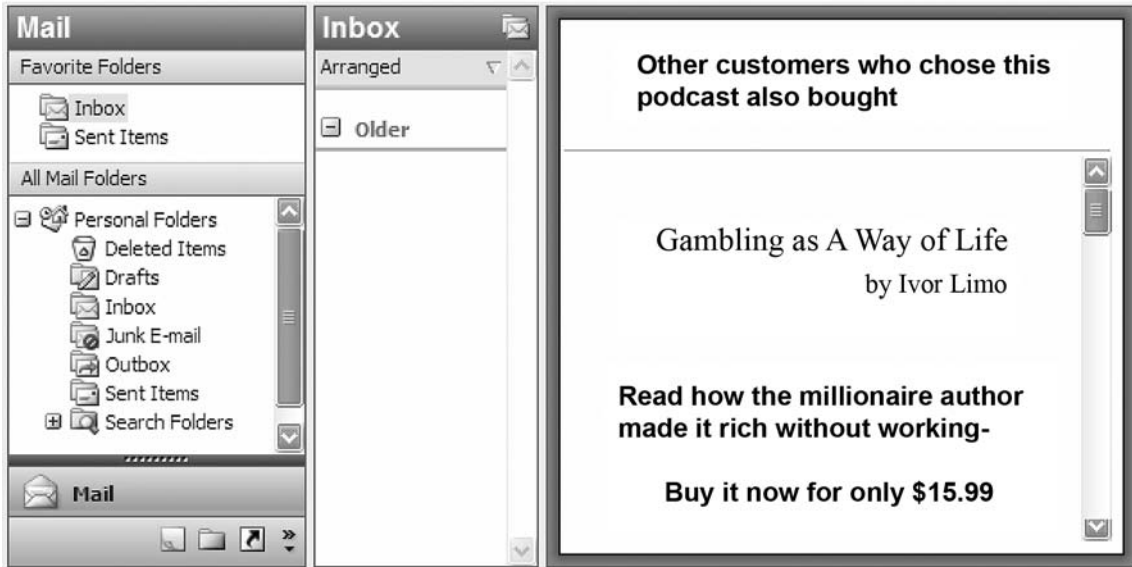
**Australian Supplier: Table**

SupplierID	Company Name	Contact Name	Contact Title	Street Address	City	Postcode
1	Exotic Podcasts	Sue Downs	Manager	12 Café St	Mel	3112
2	ABX Products	Rob Lore	Sales	3 Harbour Cl	Syd	2005
3	Bunny Podcasts	Alan Green	Marketing	81 Runway St	Mel	3245
4	NewAge Podcasts	Gino Carli	Sales	123 River Hwy	Ade	5001
5	Specialty Podcasts	Andy Smith	Manager	22 Sandy St	Per	6101
6	Country Podcasts	Bruce Jones	Manager	34 Olive Gr	Mel	3021
7	Picatooth Podcasts	Alex Con	Sales	26 Cook Ave	Syd	2245
8	Children's Podcasts	Karen Owen	Manager	437 West Rd	Syd	2011

- d. Hand draw an input form for UPod to add a new Australian supplier to the table shown. The company standard font is Arial size 14. Background colour is grey.

3 marks

When Sam’s fifteen-year-old brother Gino ordered a podcast from UPod, UGambling sent him the following email.



- e. Identify an ethical dilemma for the management of UPod and UGambling raised by this email.
  - i. UPod management \_\_\_\_\_  
\_\_\_\_\_
  - ii. UGambling management \_\_\_\_\_  
\_\_\_\_\_
  - iii. Write a question you would ask the management of UGambling about sending this email to a teenager.  
\_\_\_\_\_  
\_\_\_\_\_

1 + 1 + 1 = 3 marks



**Question 12**

The section of the Delivery Costs spreadsheet below shows the delivery cost and weight of each item to be delivered to customers.

	A	B	C	D	E	F	G
1		<b>Delivery Costs</b>					
2							
3	<b>DriverID</b>						
4							
5	<b>CustomerID</b>	<b>Item</b>	<b>Weight Kg</b>	<b>Delivery Cost \$</b>			
6	TR0023	Refrigerator	55	40.00		<b>Delivery Charges</b>	
7	WR0012	Dryer	15	10.00		<b>Kg</b>	<b>\$</b>
8	WR0012	Washer	35	30.00		0	-
9	YL023	Plasma TV	18	10.00		1	10.00
10						20	30.00
11						50	40.00
12	<b>Total Weight</b>		123				
13							

Navigation: DeliveryCost / DeliveryStats / CustomerInfo

Costs are calculated by the weight of each item using the following rates.

1 to 20 kg is \$10

21 to 50 kg is \$30

over 50 kg is \$40

- a. Write the most efficient formula to calculate delivery cost in cell D6 that can be replicated or dragged down cells D7 to D9.

1 mark

- b. The manager needs an alert in the worksheet if the **Total Weight** of all items in a delivery is greater than 900 kilograms.

i. Write a formula for an alert.

ii. Recommend a cell where you would place an effective alert.

Justify your answer.

- iii. Provide one value of test data in an appropriate cell that would trigger your alert.

Cell	Test data

1 + (1 + 1) + 1 = 4 marks

The manager has designed the worksheet below to keep track of the delivery statistics.

A reference to the **Delivery Cost** worksheet on page 17 automatically returns the correct value to D6 on the **DeliveryStats** worksheet below.

	A	B	C	D	E
1			<b>Delivery Statistics</b>		
2	Date				
3					
4			DeliveryID		
5					
6			Total Weight (kg)	123	
7					
8			Total Travel (km)		
9					
10			Petrol Used (L)		
11					

← ▶ ↶ ↷ | DeliveryCost | **DeliveryStats** | CustomerInfo |

- c. Write the reference formula that places the correct value for Total Weight in the **DeliveryStats** worksheet.

\_\_\_\_\_

1 mark

- d. The warehouse has kept statistics of petrol used each month.
  - i. Describe how this information should be presented in a yearly report.

\_\_\_\_\_

\_\_\_\_\_

- ii. Justify your answer.

\_\_\_\_\_

\_\_\_\_\_

1 + 1 = 2 marks

The manager has designed a new delivery slip for each customer. The slip for Mrs Wright shown below uses data from the worksheet **Delivery Cost** and another worksheet called **Customer Info**.

<b>Customer Delivery Instructions</b>	
CustomerID	WR0012
LastName	Wright
Street Address	12 Railway Pde
Suburb	Richmond
Postcode	3121
Tel/Mob	94287777
-----	
<b>Items</b>	
Dryer	15 kg
Washer	35 kg

- e. i. Recommend an efficient procedure to automatically create a delivery slip for each customer.

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- ii. Justify your answer.

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1 + 1 = 2 marks

