

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

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General Certificate of Secondary Education
June 2003



INFORMATION AND COMMUNICATION TECHNOLOGY 3528/H
(SPECIFICATION B)
(SHORT COURSE)
HIGHER TIER

Friday 20 June 2003 1.30 pm to 3.00 pm

H

<p>No additional materials are required. You may use a calculator.</p>

Time allowed: 1 hour 30 minutes

Instructions.

- Use a blue or black ink or ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** the questions in the spaces provided.

Information

- The maximum mark for this paper is 60.
- Mark allocations are shown in brackets.

For Examiner's Use	
Number	Mark
1	
2	
3	
4	
5	
6	
7	
8	
TOTAL	
Examiner's Initials	

Answer **all** questions in the spaces provided

- 1 An Asian restaurant uses a spreadsheet to record sales.
This is part of the spreadsheet.

	A	B	C	D
1	Meal	Price	Quantity Sold	Takings
2	Meat Bhuna	£4.50	2	£9.00
3	Chicken Tandoori	£5.00	5	£25.00
4	Lamb Balti	£6.50	3	£19.50
5	Vegetable Curry	£3.25	4	£13.00
6				
7			Total Takings =	£66.50

- (a) Tick **one** box to show the format of cell B2.

	Tick one box
currency	
number	
general	
percentage	
time	

(1 mark)

- (b) Write down the formula in cell D7.

.....
(2 marks)

- (c) The price of Vegetable Curry is increased to £4.00.
When the spreadsheet has been edited, the values in some cells change automatically.
Identify **two** cells which change automatically.

Cell 1:

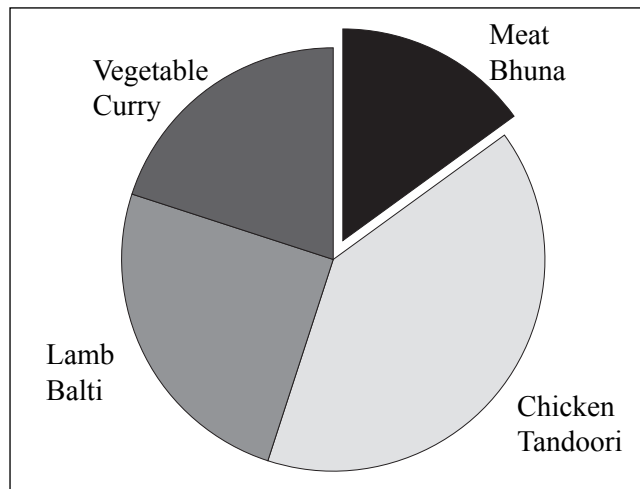
Cell 2:

(2 marks)

- (d) A spreadsheet can generate different types of graph.
For each of the following, write down the type of graph shown.

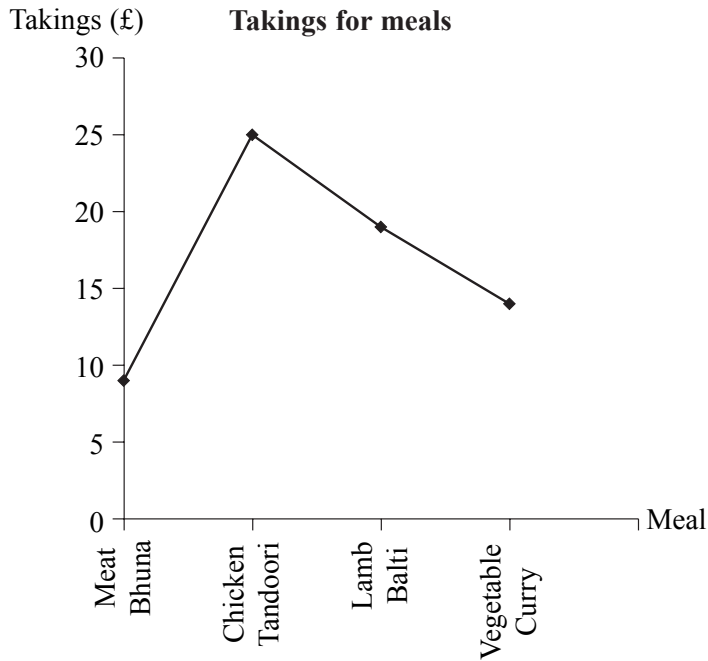
(i)

Takings for meals



Type of graph.....

(ii)



Type of graph.....

(2 marks)

- (e) Write down the type of graph that **should** be used to illustrate the *Takings for meals*.

.....

Explain why this type of graph should be used.

.....

.....

(1 mark)

Turn over ▶

- 2 The NANOTEX manufacturing company keeps personal information about its employees on a database on a computer.
This is part of the database.

Employee Number	Name	Job Title	Weekly Wage (£)
09834	Jones	Fitter	250
01834	Hood	Packer	200
08374	Habib	Packer	200
19774	Clarke	Supervisor	5000
03452	Cook	Electrician	250
18973	Casey	Packer	200

- (a) Data in one **Weekly Wage** field is probably incorrect.
Describe in full a validation check that the computer could use to detect this error.

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(3 marks)

- (b) (i) Write down the name(s) of the employee(s) whose record(s) are selected using this search condition.

Search condition: **Name** begins with C AND **Job Title** is Packer

Records selected:
(1 mark)

- (ii) Write down the name(s) of the employee(s) whose record(s) are selected using this search condition.

Search condition: **Employee Number** begins with 1 OR **Job Title** is Packer

Records selected:
(1 mark)

- (c) This search condition is used to search the database.
Search condition: **Weekly Wage** is less than 500 AND **Employee Number** is 03452
Write down a more efficient search condition.

.....

.....

(1 mark)

- (d) NANOTEX collects information about its employees using an Optical Mark Recognition (OMR) form.
The OMR form is input to the computer.

Design the section of the OMR form used to collect information about an employee's **Job Title**.

(2 marks)

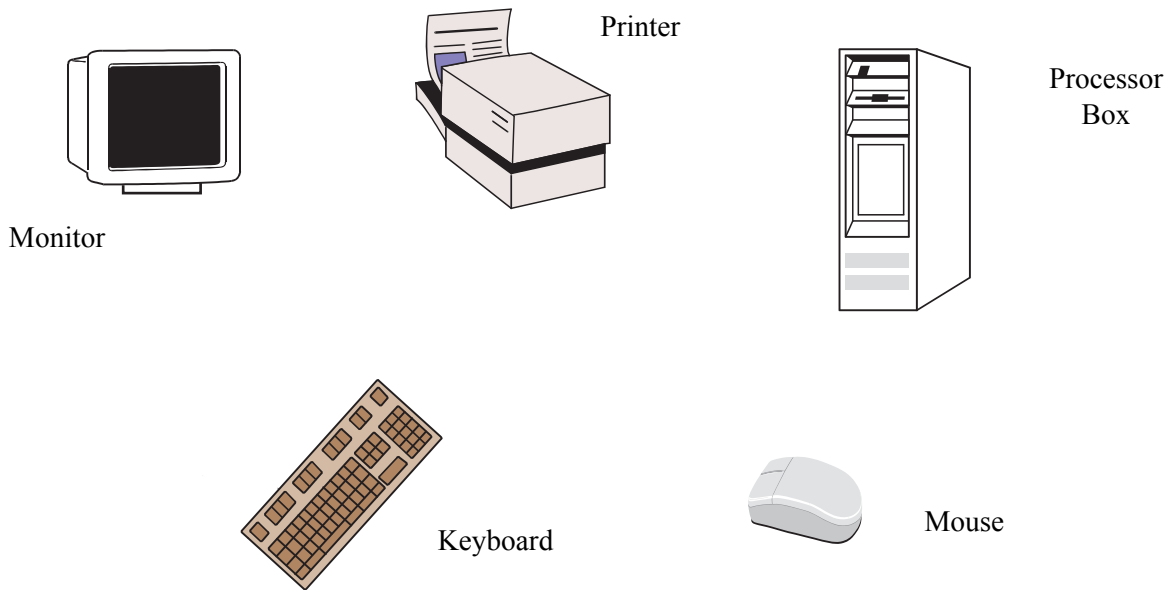
—
8

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

- 3 (a) A school technician is setting up a new computer system that has just been delivered.

The computer system has these component parts.



Cables are used to connect the parts when the computer system is set up.
Draw lines on the diagram to show the cables that connect the parts.

(2 marks)

- (b) The computer is connected to a Local Area Network (LAN).

Draw a labelled diagram of a LAN that shows the hardware that would be connected to it.
This should include the connections between at least three computers and a file server.

(2 marks)

- (c) Some people wrongly think that a computer's Random Access Memory (RAM) and its hard disk are the same.

Describe **three** ways a computer's RAM and its hard disk are not the same.

Way 1:

.....

Way 2:

.....

Way 3:

.....

(3 marks)



TURN OVER FOR THE NEXT QUESTION

Turn over ▶

4 A weather station is located next to a country road on the edge of a large city.

The weather station photograph is not reproduced here due to third-party copyright constraints. The full copy of this paper can be obtained by ordering 3528F from AQA Publications Tel: 0161 953 1170

- (a) The weather station has a sensor which is used to record the temperature. The temperature is only recorded at midday every day. The council uses this temperature to predict when the roads will be icy so that it can grit them. The council finds the roads are often not icy when it predicts they will be, and it wastes grit.

Describe how the council could improve the accuracy of the prediction that the roads will be icy.

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(2 marks)

- (b) Describe **three other** types of information that other sensors on the weather station might be used to record.

Type of information 1:

.....

Type of information 2:

.....

Type of information 3:

(3 marks)

- (c) A person used to visit the weather station to collect the information recorded. The weather station is now connected to the council's computer. The council's computer collects the information recorded.

Discuss the advantages and disadvantages of using the council's computer instead of a person to collect the information recorded.

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(3 marks)

5 VideoNow is a video rental shop.

(a) VideoNow is going to install a new ICT system.

These are some of the tasks VideoNow is going to do.

Label	Task
A	Produce instructions that tell users how to operate the ICT system
B	Purchase the hardware and software to be used
C	Check that the ICT system works
D	Produce a flowchart of the new ICT system.
E	Train users to operate the new ICT system.

Write down the label of the task which is a part of systems design.

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Write down the label of the task that is a part of writing documentation.

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Write down the label of the task that is a part of testing.

.....

(3 marks)

(b) (i) This is part of the user documentation for the new ICT system.
This is not good user documentation.

If you don't see the Database Wizard on the Data menu it may not be installed. You will need to install the add-in. Click the Tools menu, click Add-Ins, click to select the Database Wizard check box, click OK, and then click Yes to install the Database Wizard. Click Next to continue, and Click Finish to end. Data in existing databases can be added to the Database Wizard's database. Before including data, make sure the location of the fields in the existing database matches the locations of the cells selected as data fields. Click Yes, Include option if you want to add information from existing databases, or click the No, Skip option if you don't want to add any data.

Give **three** reasons why this is **not** good user documentation.

Reason 1:

.....

Reason 2:

.....

Reason 3:

.....

(3 marks)

- (ii) Documentation can be made available on a CD-ROM,
State **one other** way documentation is made available.

.....

.....

(1 mark)

7

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

6 ConLev installs and maintains computer-controlled central heating systems.

(a) Gregory House is a large building.

The owner of Gregory House contracts ConLev to install and maintain a computer-controlled central heating system.

A ConLev engineer installs and maintains the computer-controlled central heating system.

Discuss the advantages and disadvantages to the owner of Gregory House because the engineer is employed by the contractor, ConLev.

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(3 marks)

(b) Discuss the advantages and disadvantages to the environment when a computer is used to control a central heating system.

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(4 marks)

7

7 (a) Describe **two** security threats when a computer is connected to the Internet, and describe how these could be prevented.

Security threat 1:

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How this could be prevented:

.....

Security threat 2:

.....

How this could be prevented:

.....

(4 mark)

(b) Describe **three** ways to prevent the theft or damage of hardware.

Way 1:.....

.....

Way 2:.....

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Way 3:.....

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(3 marks)

7

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

8 (a) Discuss the advantages and disadvantages to a customer of Internet banking and on-line shopping.

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(3 marks)

(b) Internet banks and on-line shops collect personal information about their customers. They know where their customers live and what they buy. Sometimes they give this personal information to other companies.

Discuss the advantages and disadvantages to a customer because Internet banks, on-line shops and other companies know this personal information.

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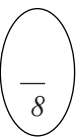
(3 marks)

(c) Describe **two** principles of data protection that protect customers from companies misusing their personal information.

Principle 1:.....
.....

Principle 2:.....
.....

(2 marks)



END OF QUESTIONS