

**2003**

**CAREER AWARD IN ICT**  
Advanced Level

**MARK SCHEME**

**MODULE: 5201/A**

**CORE MODULE**

<b>Page 1</b>	<b>Mark Scheme</b>	<b>Module</b>
	<b>ICT CAREER AWARD - 2003</b>	<b>5201/A</b>

## A Student

Printout of the file list from candidates storage area.

Check **FILENAME** is visible  
Check **File Size** is visible  
Check **Date** and **Time** are visible

**Heading style**  
 14 point, bold, san-serif font,  
 centre aligned,  
 blank line after heading  
 Must be applied to all paragraphs

A4 page size  
 Portrait  
 Top and Bottom margins 4cm  
 Left and Right margins 3cm  
 ## Allow for paper feed inconsistencies with printers  
 - (the line length must be 15 cm)

**Body style**  
 see below

## Proposal to upgrade the computer provision

It is proposed to upgrade the computer provision in the design department of Hothouse Design. Whilst on the current business plan refurbishment, redesign and re-equipping this area of the building was scheduled for the next financial year, the demand for, and rapid growth of this department has meant that this must be considered immediately.

**Body style**  
 see below

## Existing System - Personnel

**Heading style**  
 See above

The department has until last week comprised a senior graphics designer and a team of 5 graphic designers with varying backgrounds and designations. The current software is Adobe Pagemaker v4.00 with which all the existing staff are fully familiar. During the past week two new graphic designers have been appointed to

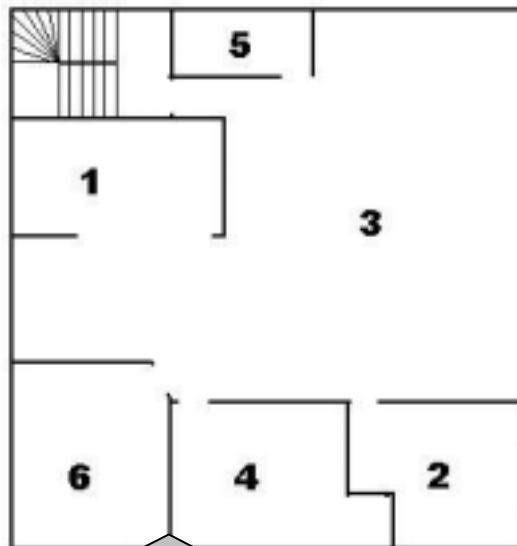
the team. The available floor space and business projections suggest that one senior designer and 11 designers may be employed by the end of the year. As the team is expanding rapidly it is likely that one appointment may be at a more senior level but this decision has yet to be ratified by the board.

**2 columns**  
 Applied to this paragraph only

## Physical location

**Heading style**  
 See above

Workstations are currently located: one in the senior graphic designer's office and five in an open plan office space due for refurbishment. A map showing a summary layout of this floor is shown to the right. There will be an immediate need to redevelop this entire floor of the building to accommodate our new employees and cater for projected growth. Some of the rooms in this area are either underused or unused and would offer an excellent opportunity to expand. If it was deemed appropriate the staff rest room could be accommodated on another floor of the building. The full list of rooms available for consideration in this area of the building which are in close proximity to this open plan area is below.



**Body style**  
 see below

Page break inserted here

Graphic ROOMS.JPG inserted here  
 Must take up 35-65% of entire column width  
 Text must wrap to left (may be below), not above or right

Footer – Date on left, Page numbering in centre, name on right

Body style  
11 point, serif font, justified  
blank line after paragraph  
Must be applied to all paragraphs

Heading style  
See above

### Available rooms

1. Staff rest room
2. Senior graphic designer's office
3. Manual drawing office (now rarely used)
4. Stationary store room
5. Unused store room

Numbered list 1-5  
Do not penalise if indented due to software autonumbering

Heading style  
See above

### Shared information

Body style  
see above

Each designer has their own work area, they can also save designs to a central design bank (currently held on drive V:) send copies of their designs to a shared printer and a shared plotter. This currently slows down two of the machines as they are hosting the network software for serving both the printer and plotter. Scanning is done on a single machine which is currently causing major access problems. The system has access to the internet (although the security is somewhat dubious) and the designers attach designs and design elements to e-mails when sharing ideas or information. Applications software is held on each workstation. The single fileserver hosts the internet access, e-mail and file management systems and is currently overstretched. Backups are made weekly.

### Hardware - Processors

Heading style  
See above

Code	Processor
P3	Pentium 3
C	Celeron
AA	AMD Athlon
AD	AMD Duron

Table inserted  
Headings bold  
Body style  
Row 3 (P4) deleted

The table above shows a list of processors which the IT department feels could offer the right specifications for all the projected software packages which are under consideration.

Body style  
see above

### Software – Design Packages

Data Entry  
Must be 100%  
Accurate  
Heading style  
See above

Following packages have been short listed: Quark Xpress, Pagemaker and Publisher. Quark Xpress 4.1 is almost recognized as the industry standard for professional design. Although expensive it contains many enhanced features and will allow the use of exceptional resolutions which would prove useful providing the input and output peripherals selected can handle these types of resolution. Adobe Pagemaker v7.00 has for the Hothouse team a great advantage in that the staff are already familiar with earlier version, therefore the transition to this would be more time effective as well as cost effective and probably less stressful on the existing design team. Microsoft Publisher is the third option, not because of the product quality but this platform is used by many small freelance designers and having the same platform as them would make the use of consultants at busy periods a viable option. Final decisions on this element will need to be taken in the near future.

<b>Page 4</b>	<b>Mark Scheme</b>	<b>Module</b>
	<b>ICT CAREER AWARD - 2003</b>	<b>5201/A</b>

## A. Student

Body style  
see above

### **Hardware – Workstation Specifications**

Heading style  
See above

Taking into account the three short listed packages it has been decided that the computer specifications to enable any of these packages to run, must as a minimum have a processor speed of at least 950 megahertz and at least 256 megabytes of random access memory. So far only a handful of the perspective hardware suppliers have given us a quotation but the computer specifications listed below are those which match the specifications so far.

<b>Page 5</b>	<b>Mark Scheme</b>	<b>Module</b>
	<b>ICT CAREER AWARD - 2003</b>	<b>5201/A</b>

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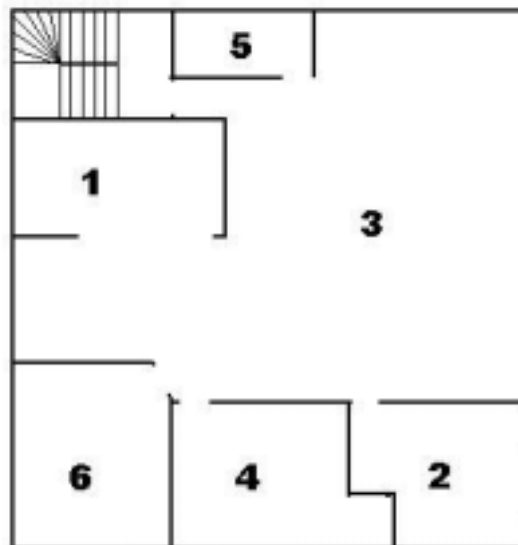
### Existing System - Personnel

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The available floor space and business projections suggest that one senior designer and 11 designers may be employed by the end of the year. As the team is expanding rapidly it is likely that one appointment may be at a more senior level but this decision has yet to be ratified by the board.

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Page break inserted here

<b>Page 6</b>	<b>Mark Scheme</b>	<b>Module</b>
	<b>ICT CAREER AWARD - 2003</b>	<b>5201/A</b>

### Available rooms

1. Staff rest room
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Numbered list 1-6  
Item 3 inserted into correct place  
numbering correct

### Shared information

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### Hardware - Processors

Code	Processor
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C	Celeron
AA	AMD Athlon
AD	AMD Duron

The table above shows a list of processors which the IT department feels could offer the right specifications for all the projected software packages which are under consideration.

A4 page size  
 Landscape from this point to end of document  
 Top and Bottom margins 4cm  
 Left and Right margins 3cm  
 Allow for paper feed inconsistencies with printers – (the line length must be 23.7 cm)

### Software – Design Packages

The following packages have been short listed: Quark Xpress, Pagemaker and Publisher. Quark Xpress is an industry standard for professional designers, although expensive it contains many enhanced features and will allow the use of exceptional resolution, which would prove useful providing the input and output peripherals selected can handle these types of resolution. Adobe Pagemaker v7.00 has for the Hothouse team a great advantage in that the staff are already familiar with earlier version, therefore the transition to this would be more time effective as well as cost effective and probably less stressful on the existing design team. Microsoft Publisher is the third option, not because of the product quality but this platform is used by many small freelance designers and having the same platform as them would make the use of consultants at busy periods a viable option. Final decisions on this element will need to be taken in the near future.

### Hardware – Workstation Specifications

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MHZ	RAM	Make	CD	HardDrive	Modem	Price	Processor	TotPrice
1000	256	Hewlett Packard	2	30	Yes	1,463.99	P3	17,567.88
1000	256	SSC	2	45	Yes	1,877.65	AA	22,531.80
1000	256	SSC	2	45	Yes	1,954.03	P3	23,448.36
1000	256	Viglen	3	30	Yes	1,999.00	P3	23,988.00
1100	256	Hewlett Packard	3	40	Yes	1,574.78	P3	18,897.36
1100	256	SSC	2	45	Yes	2,026.88	AA	24,322.56
1100	256	ACI	3	40	Yes	2,278.33	AA	27,339.96
1100	256	Blue Ridge	2	50	Yes	2,348.83	AA	28,185.96

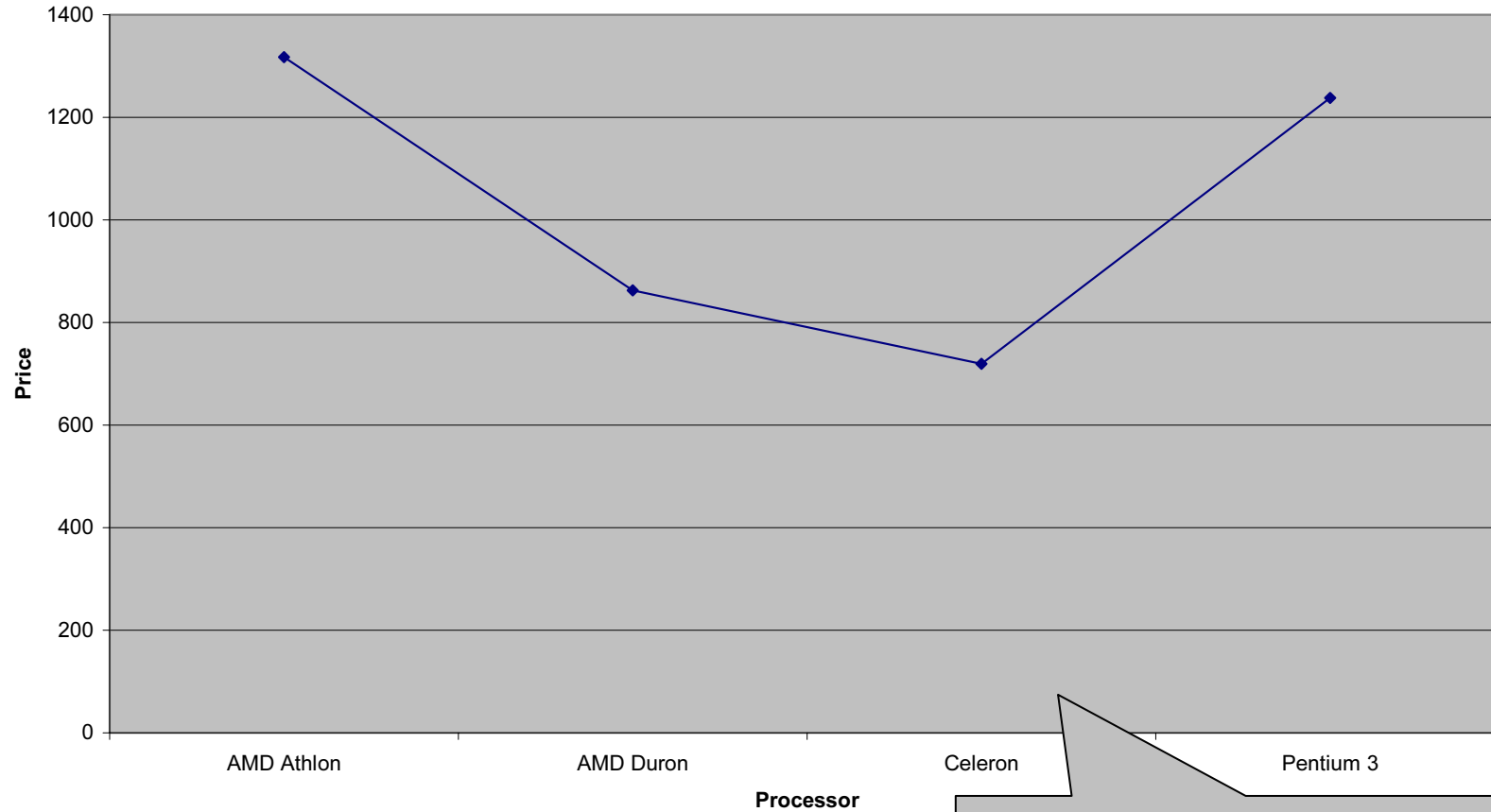
Search  
 MHZ >= 950 AND RAM = 256  
 All fields shown except OS

Sort  
 Ascending on MHZ then on Price

Calculated column  
 Must be 12 \* Price column



Comparing Processor Costs



**Chart**  
 Only 4 Processors (if Pentium 4 included with no price then OK)  
 Title, labels and no legend as shown  
 Prices shown must be averages – Correct values are:

AMD Athlon	1317.294
AMD Duron	862.24
Celeron	719.40
Pentium 3	1,237.58

<b>Page 9</b>	<b>Mark Scheme</b>	<b>Module</b>
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Printout of the second e-mail prepared and ready to send to autoresponder-

Check send to address: **design.h@ucles.org.uk**  
Check subject line **ICTCOREX**  
Check for attachment present  
Could have any file name, check for document or dtp application extensions, zip files etc.

Printout of the file list from candidate's storage area.

Check all work files have been deleted other than those saved in steps 23 and 43  
Check **BACKUP** folder has been created  
Check printout includes contents of **BACKUP** folder  
Ensure final document has been moved into backup folder  
Check **FILENAME** is visible for all files  
Check **File Size** is visible for all files  
Check **Date** and **Time** are visible for all files

**2003**

**CAREER AWARD IN ICT**  
Advanced Level

**MARK SCHEME**

**MODULE: 5201/B**

**CORE MODULE**

<b>Page 1</b>	<b>Mark Scheme</b>	<b>Module</b>
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Printout of the file list from candidates storage area.

Check **FILENAME** is visible  
Check **File Size** is visible  
Check **Date** and **Time** are visible

<b>Page 2</b>	<b>Mark Scheme</b>	<b>Module</b>
	<b>ICT CAREER AWARD - 2003</b>	<b>5201/B</b>

Heading style  
16 point, underlined, san-serif font, left aligned,  
blank line after heading  
Must be applied to all paragraphs

A4 page size  
Portrait  
Top and Bottom margins 3.5cm  
Left and Right margins 2.5cm  
Allow for paper feed inconsistencies with printers – the line length must be 16 cm

**First Draft**

**Proposal to upgrade the administration computer**

It is proposed to upgrade the single administration computer within the interior design department of Hothouse Design. This computer will be a single machine replacement with the current machine being donated to a local primary school (which has yet to be chosen). The computer will continue to have the same primary function of holding all the

appointments for the producing the word processed desktop published quotations for customers and for general secretarial purposes. This computer will not be used for the design process or storage of any of the design elements.

Data Entry  
Must be 100% Accurate  
Heading style  
See above

**Specification**

1. At least 700mhz Pentium 4 processor
2. CD-ROM, CD-Rewriter or DVD drive
3. At least 25gb hard drive
4. Windows 2000, XP or greater
5. Microsoft Office XP Professional

Heading style  
See above

Body style  
see below

2 columns  
Applied to this paragraph only

Numbered list 1-5  
Do not penalise if indented due to software autonumbering

The supplier for the hardware has already been selected by the Information and Communications Technology Department, under their current development and purchasing plan. The current prices of all the available machines from this manufacturer are now in the office and data has been extracted from this document for the purposes of generating this report. The prices and specifications quoted are only valid for a period of 14 days. If updated figures become available they will be appended to this document. The exact workstation specification and major application packages which are recommended are listed above.

**Network Resources**

There are no plans to upgrade the available in this office, the Hewlett Packard laser printer has proved a reliable and robust peripheral, and the servers (both PDC and BDC) are more than adequate for the projected use in the next six month period. To facilitate future network developments however it is proposed to use a 10/100 switchable network interface card in this machine. The current CAT5 network cabling can handle the increase in network speed to 100 megabits per second and the proposed introduction of new switchable hubs to allow both speeds of traffic on the network at the same time will greatly improve performance.

Heading style  
See above

Body style  
see below

Page break inserted here

Body style  
12 point, serif font, justified  
blank line after paragraph  
Must be applied to all paragraphs

Footer – Name on left, Page numbering in centre, Date on right

Heading style  
See above

Graphic OLDROOM.JPG inserted here  
Must take up 35-65% of entire column width  
Text must wrap to right (may be below), not above or left

## Refurbishment



Body style  
see above

When the current machine is replaced it is proposed to redesign the work area with the aim to improve the quality of life of the office workers. The introduction of our own brand office fixtures and fittings will provide ergonomic, multifunctional workstation solutions that make best use of the available floor space. It is proposed to redesign this area of the Interior Design office in laminated beech. Although it is not intended as a 'show' area, there may be some marketing potential in photographing the refurbished work area when it is completed and the new computer installed. In view of this we have had one section of the current area photographed, to enable us to do a 'before' and 'after' comparison. The suppliers of the hardware would also like copies of the

'after' photographs to use in their promotional materials. A copy of the proposed 'before' picture can be seen on the left.

The staff who work in the interior design department have requested that the colour scheme for the room is changed to three colours of green, a pale (slightly olive) green as the base colour, with two graded darker shades of green and a gold to highlight individual features and provide a suitable contrast.

## Monitor

Heading style  
See above

Body style  
see above

The current 14 inch monitor should also be replaced. Discussion is to the merits of CRT against LCD, although LCD would be the preferred option based upon ergonomics and the marketing value from the proposed photographs; as Hothouse Design want to be recognised as a very forward looking and high tech business partner.

## CD-ROM Drive

Heading style  
See above

Body style  
see above

<i>Code</i>	<i>CD Type</i>
1	CD-rom
2	CD-rewriter
3	DVD
4	CD-rom
5	CD-rom

Table inserted  
Headings bold and italic  
Body style  
Column 3 (Manufacturer) deleted

<b>Page 4</b>	<b>Mark Scheme</b>	<b>Module</b>
	<b>ICT CAREER AWARD - 2003</b>	<b>5201/B</b>

A CD-ROM Drive of some description is needed. Options to consider include a CD-ROM, CD-Rewriter, or DVD drive. The merits of each of these types of device need to be fully investigated. The following chart gives a brief insight into the comparative costs of computers fitted with each type. The figures are averages taken from the current supplier's price list.

## Cost Effective Solutions

One measure which can often be effective in addressing options is to find the cost per megabyte of RAM. This is only a rough solution and many other factors must be taken into account. Given the large number of computers to select from, we have decided to initially consider computers which cost less than £10 per megabyte of RAM. One other specification which the Information and Communication Technology department were insistent upon was the selection of computers with Pentium 4 processors. This table shows computers which meet both of these specifications. The data omitted from this table contains the CD drive details.

Body style  
see above

Heading style  
See above

Body style  
see above

<b>Page 5</b>	<b>Mark Scheme</b>	<b>Module</b>
	<b>ICT CAREER AWARD - 2003</b>	<b>5201/B</b>

## First Draft

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appointments for the department, producing the word processed and /or desktop published quotations for potential customers and for general secretarial and clerical purposes. This computer will not be used for the design process or storage of any of the design elements.

### Specification

1. At least 700mhz Pentium 4 processor
2. At least 128mb of RAM
3. CD-ROM, CD-Rewriter or DVD drive
4. At least 25gb hard drive
5. Windows 2000, XP or greater
6. Microsoft Office XP Professional

#### Numbered list 1-6

Item 2 inserted into correct place  
numbering correct

The supplier for the hardware has already been selected by the Information and Communications Technology Department, under their current development and purchasing plan. The current prices of all the available machines from this manufacturer are now in the office and data has been extracted from this document for the purposes of generating this report. The prices and specifications quoted are only valid for a period of 14 days. If updated figures become available they will be appended to this document. The exact workstation specification and major application packages which are recommended are listed above.

### Network Resources

There are no plans to upgrade the network resources available in this office, the current Hewlett Packard laser printer has proved a reliable and robust peripheral, and the servers (both PDC and BDC) are more than adequate for the projected use in the next six month period. To facilitate future network developments however it is proposed to use a 10/100 switchable network interface card in this machine. The current CAT5 network cabling can handle the increase in network speed to 100 megabits per second and the proposed introduction of new switchable hubs to allow both speeds of traffic on the network at the same time will greatly improve performance.

Footer – Name on left, Page numbering in centre, Date on right



Page 6	Mark Scheme	Module
	ICT CAREER AWARD - 2003	5201/B

## Refurbishment



When the current machine is replaced it is proposed to redesign the work area with the aim to improve the quality of life of the office workers. The introduction of our own brand office fixtures and fittings will provide ergonomic, multifunctional workstation solutions that make best use of the available floor space. It is proposed to redesign this area of the Interior Design office in laminated beech. Although it is not intended as a 'show' area, there may be some marketing potential in photographing the refurbished work area when it is completed and the new computer installed. In view of this we have had one section of the current area photographed, to enable us to do a 'before' and 'after' comparison. The suppliers of the hardware would also like copies of the

'after' photographs to use in their promotional materials. A copy of the proposed 'before' picture can be seen on the left.

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<b>Page 7</b>	<b>Mark Scheme</b>	<b>Module</b>
	<b>ICT CAREER AWARD - 2003</b>	<b>5201/B</b>

## Monitor

The current 14 inch monitor should also be replaced with a new one, discussion is needed as to the merits of CRT against LCD, although LCD would be the preferred option based upon ergonomics and the marketing value from the proposed photographs; as Hothouse Design want to be recognised as a very forward looking and high tech business partner.

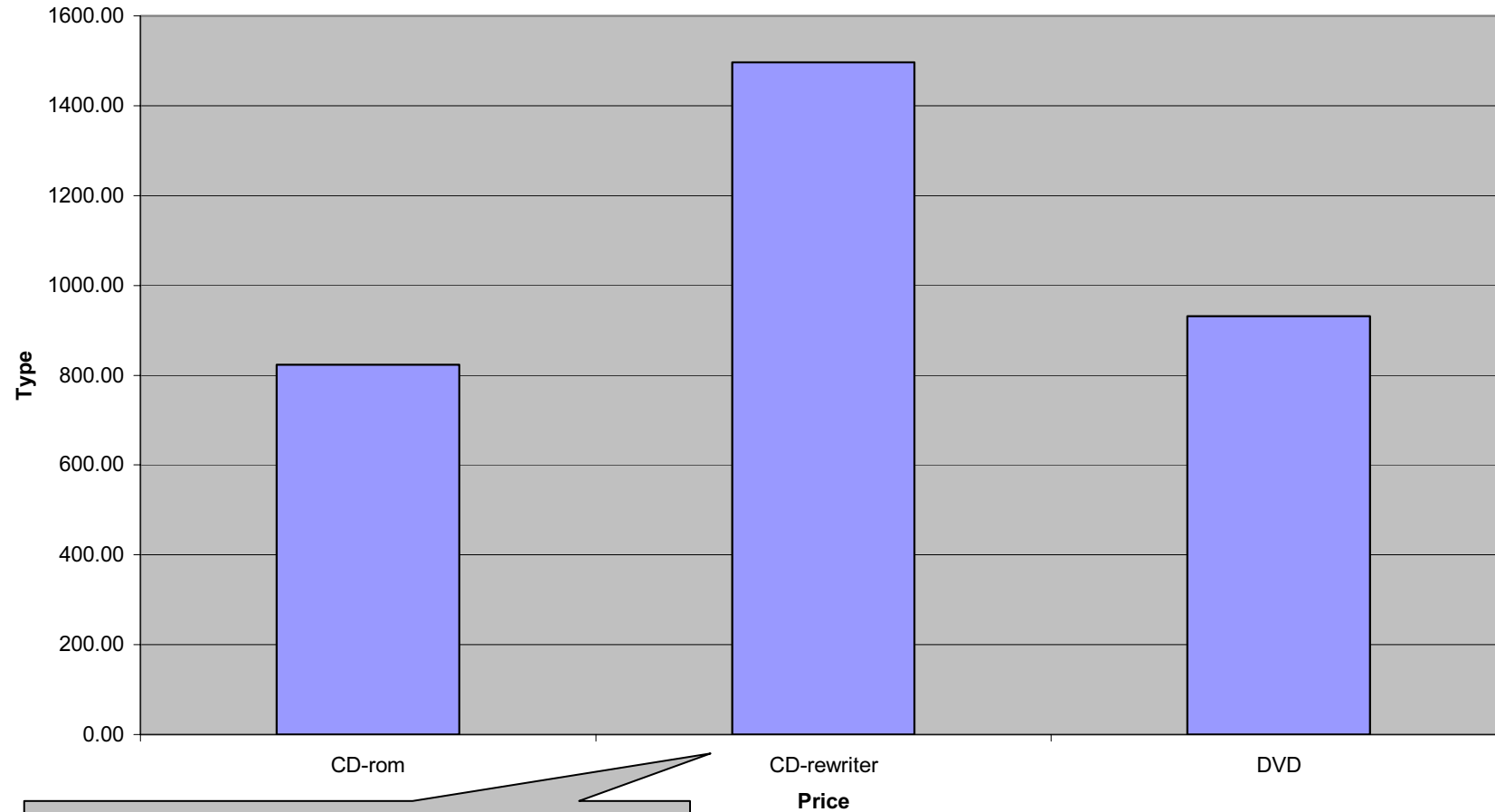
## CD-ROM Drive

<i>Code</i>	<i>CD Type</i>
1	CD-rom
2	CD-rewriter
3	DVD
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5	CD-rom

A4 page size  
 Landscape from this point to end of document  
 Top and Bottom margins 3.5cm  
 Left and Right margins 2.5cm  
 Allow for paper feed inconsistencies with printers – the line length must be 24.7 cm

A CD-ROM Drive of some description is needed. Options to consider include a CD-ROM, CD-Rewriter, or DVD drive. The merits of each of these types of device need to be fully investigated. The following chart gives a brief insight into the comparative costs of computers fitted with each type. The figures are averages taken from the current supplier's price list.

**Comparing Costs based on CD types**



**Chart**

Only 3 CD types shown

Title, labels and no legend as shown

Prices shown must be averages – Correct values are:

CD-rom	823.59
CD-rewriter	1496.29
DVD	931.26

<Student's Name>

Page <No>

<Date>

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## Cost Effective Solutions

One measure which can often be effective in addressing cost effective solutions is to find the cost per megabyte of RAM. This is only a rough solution and many other factors must be taken into account. Given the large number of computers to select from, we have decided to initially consider computers which cost less than £10 per megabyte of RAM. One other specification which the Information and Communication Technology department were insistent upon was the selection of computers with Pentium 4 processors. This table shows computers which meet both of these specifications. The data omitted from this table contains the CD drive details.

Style	MHZ	RAM	HardDrive	Price	Processor	MbCost
Minuet II	667	128	30	889.48	Pentium 4	6.95
Minuet II	667	64	20	639.2	Pentium 4	9.99
Invincible	700	128	20	709	Pentium 4	5.54
Durable	700	128	20	789	Pentium 4	6.16
Invincible	700	128	30	1,039.00	Pentium 4	8.12
Invincible	700	128	30	1,159.00	Pentium 4	9.05
Invincible	800	128	20	759	Pentium 4	5.93
Durable	800	128	20	839	Pentium 4	6.55
Minuet II	800	256	45	1,709.63	Pentium 4	6.68
Minuet II	800	128	30	903.58	Pentium 4	7.06
Invincible	800	128	30	1,099.00	Pentium 4	8.59
Minuet II	866	256	45	1,739.00	Pentium 4	6.79
Minuet II	933	256	45	1,845.93	Pentium 4	7.21
Durable	933	128	20	929	Pentium 4	7.26
Minuet II	933	128	30	1,039.88	Pentium 4	8.12
Minuet II	1000	256	45	1,954.03	Pentium 4	7.63
Minuet II	1000	128	30	1,147.98	Pentium 4	8.97

Search  
MbCost < 10 AND Processor = Pentium 4  
All fields shown **except** CD

Sort  
Ascending on **MHZ** then on **MbCost**

Calculated column  
= Price / RAM  
Format must be 2 d.p.

<b>Page 11</b>	<b>Mark Scheme</b>	<b>Module</b>
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Printout of the second e-mail prepared and ready to send to autoresponder-

Check send to address: **design.h@ucles.org.uk**  
Check subject line **ICTCOREX**  
Check for attachment present  
Could have any file name, check for document or dtp application extensions, zip files etc.

Printout of the file list from candidate's storage area.

Check all work files have been deleted other than those saved in steps 23 and 43  
Check **BACKUP** folder has been created  
Check printout includes contents of **BACKUP** folder  
Ensure final document has been moved into backup folder  
Check **FILENAME** is visible for all files  
Check **File Size** is visible for all files  
Check **Date** and **Time** are visible for all files

**2003**

**CAREER AWARD IN ICT**  
Advanced Level

**MARK SCHEME**

**MODULE: 5201/C**

**CORE MODULE**

<b>Page 1</b>	<b>Mark Scheme</b>	<b>Module</b>
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Printout of the file list from candidates storage area.

Check **FILENAME** is visible  
Check **File Size** is visible  
Check **Date** and **Time** are visible



<b>Page 2</b>	<b>Mark Scheme</b>	<b>Module</b>
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Heading style  
 18 point, bold, underlined, sans-serif font, centre aligned,  
 blank line after heading  
 Must be applied to all headings

A4 page size  
 Portrait  
 Top and Bottom margins 4cm  
 Left and Right margins 2cm  
 Allow for paper feed inconsistencies with printers –  
 (the line length must be 17 cm)

Body style  
 see below

## **New Manufacturing Plant**

Hothouse Design has been commissioned to design the new manufacturing plant for Tola Irrigation. This plant must be located within the United States of America due to the accessibility of the North American markets but there is no specific requirement to build

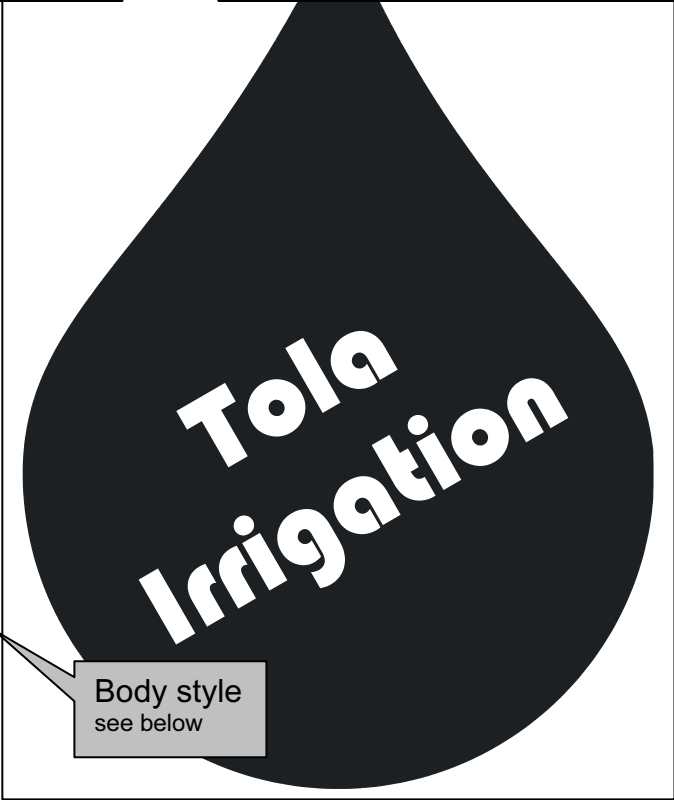
the plant on mainland North America. This means that the satellite states of Hawaii and Alaska could be considered along with other areas like the Virgin Islands which would still be considered as within the United States trading block.

## **Design Stages**

Heading style  
 See above

2 columns  
 Applied to first paragraph only

The design element of this plant will be in several stages with agreed stage payments. Each must be approved by both Hothouse Design and Tola Irrigation including the time lines, personnel and eventually drawing up of the contracts. The proposed stages are the initial stage, which will culminate in the selection of a preferred location. The secondary stage will be to design the outline layout of the plant including the cost projections for these designs. Further stages will be to complete the design elements (in detail) within the budget set and to oversee the development in a consultancy role. For the final stage Tola Irrigation will commission Hothouse Design to create and manage the launch of the plant, focussing on 'The caring nature of both companies in helping to alleviate world poverty and starvation'.



Body style  
 see below

Page break inserted here

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 Must take up 35-65% of entire column width  
 Text must wrap to left (may be below), not above or right

Footer – Date on left, Page numbering in centre, name on right

<Date>

Page <No>

<Student's Name>

Heading style  
See above

Numbered list 1-5  
Do not penalise if indented due to software autonumbering

Body style  
12 point, serif font, justified  
blank line after paragraph  
Must be applied to all paragraphs

## Initial Stage

1. Select states which have suitable criteria
2. Identify physical locations and constraints within those states
3. Consider the potential for localised economic growth
4. Consider transport links
5. Consider the willingness of the local communities to the project.

## Water

Heading style  
See above

Water is a vital resource, and must be available in a readily accessible form (probably as ground water reserves) in order for the plant to function. As vast quantities will be needed both for the manufacturing and testing of the products, the cost of sourcing this water must be minimal. As a forerunner to the selection process four potential states have been identified by Tola, each with its own strengths and weaknesses. Tola would be happy to endorse any of those listed, but less happy with some other states. Hothouse should therefore focus the research on these states:

Code	State	Location
V	Virgin Islands	
H	Hawaii	Mid
N	Nevada	Inland west
W	Washington DC	Mid East Coast

Table inserted  
Headings bold  
Body style  
Row 6 (Florida) deleted

## Manpower

Heading style  
See above

Body style  
see above

The second major resource that must be available is manpower. Looking at demographic changes for each of the counties within these areas should indicate which areas have population growth and which are in decline. The potential for moving into an area with a declining population would give a boost to the local economy, revitalise the area and provide new opportunities for its inhabitants. In these circumstances there will be less potential for problems with the planning applications and in ensuring that local officials will be more supportive of the development. The selected state must have sufficient population to ensure that some (or preferably most) of the labour force will be local. Tola however, does not wish the plant to be built close to large population centres, due to the requirement for using some hazardous chemicals as part of the process.

## Population of each State

Heading style  
See above

## County by County

Data Entry  
Must be 100% Accurate  
Heading style  
See above

Each County should be examined to see if it has suitable populations of less than 100,000 inhabitants and initially Counties of less than 100 gallons per person per day. This figure indicates that there are no other major water using industries

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Body style  
see above

within the immediate locality. Here is a table showing the Counties within all four States which meet both these criteria:

## **Products to be manufactured**

Heading style  
See above

Most of the products in Tola's current lines will be manufactured within the plant. The plant will be split into several sub-divisions. This will include the division dealing with the chemigation and fertigation products. The mainstay of Tola's business in this area is the development of liquid feed programmes suitable for the micro-irrigation systems. This will need to be housed a distance of at least 400 metres from the other areas of the plant. In addition to this it is proposed to add a research and development laboratory to this part of the complex, to enable the chemical engineers to develop and manufacture new product lines in this area. The engineering section will produce the products like the pumps, filters, valves, pressure compensating flow controllers, minisprinklers, self-propelled sprinklers, soil analysis equipment like EC and ph meters and their latest success story the recently patented super-strength seals. There are no plans to add research and development facilities for the engineering section within this plant as it is unlikely that one of the above locations would have potential employees with the necessary skills to undertake these roles and the currently established plant in Liberia has some room for expansion in this respect. The pipework division will manufacture the subsurface and UPVC conduit systems, the alcatene pipe, and the drip irrigation systems including the micro-porous pipes. This area will be developed to cater for the current manufacturing capacity plus twenty percent, but sufficient land must be available adjacent to this to enable future expansion.

Body style  
see above

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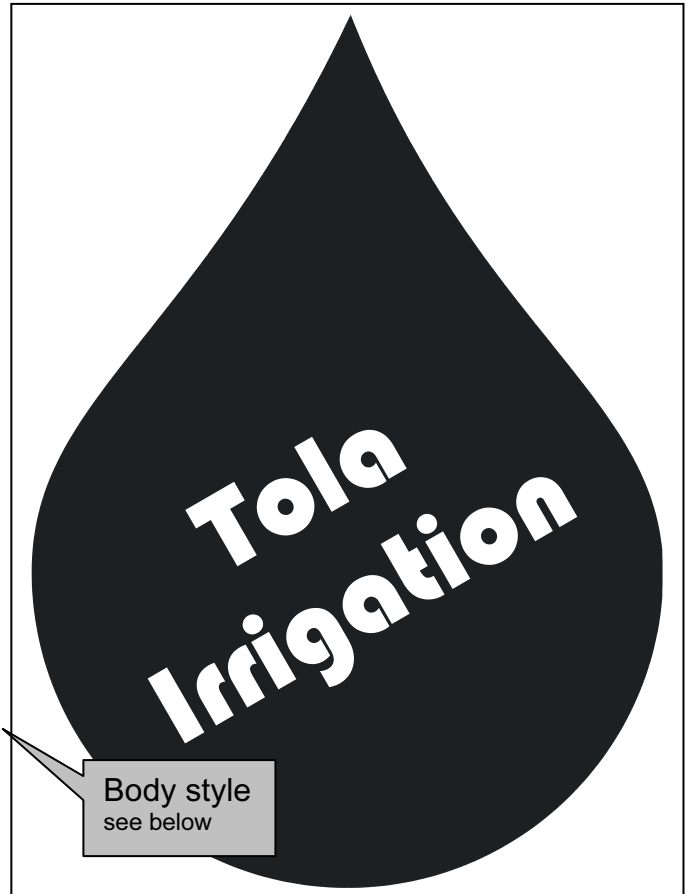
## New Manufacturing Plant

Hothouse Design has been commissioned to design the new manufacturing plant for Tola Irrigation. This plant must be located within the United States of America for due to the accessibility of the North American markets but there is no specific requirement to build

the plant on mainland North America. This means that the satellite states of Hawaii and Alaska could be considered along with other areas like the Virgin Islands which would still be considered as within the United States trading block.

## Design Stages

The design element of this plant will be made in several stages with agreed stage payments. Each must be approved by both Hothouse Design and Tola Irrigation including the time lines, personnel and eventually drawing up of the contracts. The proposed stages are the initial stage, which will culminate in the selection of a preferred location. The secondary stage will be to design the outline layout of the plant including the cost projections for these designs. Further stages will be to complete the design elements (in detail) within the budget set and to oversee the development in a consultancy role. For the final stage Tola Irrigation will commission Hothouse Design to create and manage the launch of the plant, focussing on 'The caring nature of both companies in helping to alleviate world poverty and starvation'.



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 Must take up 35-65% of entire column width  
 Text must wrap to left (may be below), not above or right

## **Initial Stage**

1. Select states which have suitable criteria
2. Identify physical locations and constraints within those states
3. Consider local demographic changes
4. Consider the potential for localised economic growth
5. Consider transport links
6. Consider the willingness of the local communities to the project.

**Numbered list 1-6**

Item 3 inserted into correct place  
numbering correct

## **Water**

Water is a vital resource, and must be available in a readily accessible form (probably as ground water reserves) in order for the plant to function. As vast quantities will be needed both for the manufacturing and testing of the products, the cost of sourcing this water must be minimal. As a forerunner to the selection process four potential states have been identified by Tola, each with its own strengths and weaknesses. Tola would be happy to endorse any of those listed, but less happy with some other states. Hothouse should therefore focus the research on these states:

<b>Code</b>	<b>State</b>	<b>Location</b>
V	Virgin Islands	Caribbean
H	Hawaii	Mid Pacific Ocean
N	Nevada	Inland West
W	Washington DC	Mid East Coast

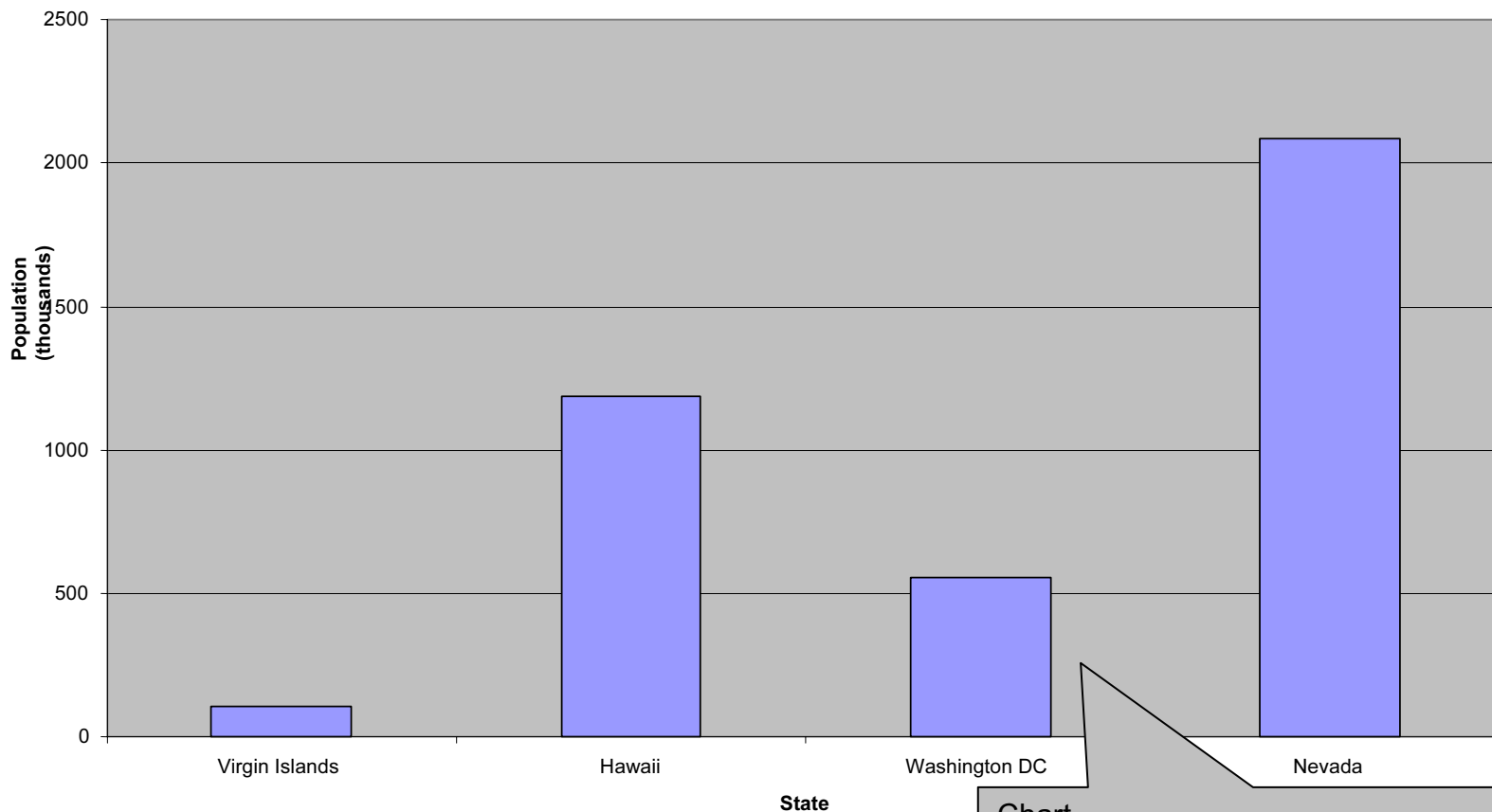
## **Manpower**

The second major resource that must be available is manpower. Looking at demographic changes for each of the counties within these areas should indicate which areas have population growth and which are in decline. The potential for moving into an area with a declining population would give a boost to the local economy, revitalise the area and provide new opportunities for its inhabitants. In these circumstances there will be less potential for problems with the planning applications and in ensuring that local officials will be more supportive of the development. The selected state must have sufficient population to ensure that some (or preferably most) of the labour force will be local. Tola however, does not wish the plant to be built close to large population centres, due to the requirement for using some hazardous chemicals as part of the process.

A4 page size  
 Landscape from this point to end of document  
 Top and Bottom margins 4cm  
 Left and Right margins 2cm  
 Allow for paper feed inconsistencies with printers – (the line length must be 25.7 cm)

## Population of each State

Population of each state in 1995



**Chart**  
 Title, labels and no legend as shown  
 Prices shown must be sum – Correct values are:

Virgin Islands	103.34
Hawaii	1186.81
Washington DC	554.26
Nevada	2084.37

<Date>

Page <No>

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## County by County

Each County should be examined to see if it has suitable demographic trends, initially Counties with populations of less than 100,000 inhabitants and with a water consumption of less than 100 gallons per person per day. This figure indicates that there are no other major water using industries within the immediate locality. Here is a table showing the Counties within all four States which meet both these criteria:

Code	County	Population	WaterUsed	GPPPD
H	Kalawao	0.09	0	0.00
N	White Pine	9.96	0.31	31.12
N	Carson City	46.28	2.83	61.15
V	St John	3.56	0.09	25.28
V	St Thomas	48.89	3.03	61.98
V	St Croix	50.89	3.33	65.44

**Search**  
Year = **1995** AND GPPPD < **100**  
All fields shown **except Year**

**Sort**  
Ascending on **Code** then on **Population**

**Calculated column**  
Must be  $1000 * \text{WaterUsed} / \text{Population}$

## Products to be manufactured

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Printout of the second e-mail prepared and ready to send to autoresponder-

Check send to address: **design.h@ucles.org.uk**  
Check subject line **ICTCOREX**  
Check for attachment present  
Could have any file name, check for document or dtp application extensions, zip files etc.

Printout of the file list from candidate's storage area.

Check all work files have been deleted other than those saved in steps 23 and 43  
Check **BACKUP** folder has been created  
Check printout includes contents of **BACKUP** folder  
Ensure final document has been moved into backup folder  
Check **FILENAME** is visible for all files  
Check **File Size** is visible for all files  
Check **Date** and **Time** are visible for all files