AS Module 1 (ICT1): The social impact of ICT

Explain the benefits and drawbacks of the use of information and communication technology in

<table>
<thead>
<tr>
<th>business</th>
<th>manufacturing</th>
<th>industry</th>
<th>commerce</th>
</tr>
</thead>
<tbody>
<tr>
<td>education</td>
<td>medicine</td>
<td>the home</td>
<td></td>
</tr>
</tbody>
</table>

including

<table>
<thead>
<tr>
<th>employment issues</th>
<th>benefits to the elderly, disabled and campaigning groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>impact of IT on the location and patterns of work</td>
<td></td>
</tr>
</tbody>
</table>

Chapter 1, 2, 3, 4, 5, 7

Specific Examples are often asked for in examination Questions – textbooks are by their nature out of date. You need to read the hyperlinks shown.

THE ROLE OF ICT (CHAPTER 1)

<table>
<thead>
<tr>
<th>hyperlink</th>
<th>3rd World</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.interconnection.org/background/benefits.htm">http://www.interconnection.org/background/benefits.htm</a></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.crito.uci.edu/">http://www.crito.uci.edu/</a></td>
<td>All areas</td>
</tr>
<tr>
<td><a href="http://www.open2.net/digitalnation/">http://www.open2.net/digitalnation/</a></td>
<td>Open University on this topic</td>
</tr>
<tr>
<td><a href="http://www.qub.ac.uk/mgt/itsoc/contents.html">http://www.qub.ac.uk/mgt/itsoc/contents.html</a></td>
<td>Excellent</td>
</tr>
</tbody>
</table>

Changing work patterns http://www.acas.org.uk/publications/B09.html

- **Increase in productivity** - if someone produces more in the same amount of time labour costs per unit of output decrease. In the last 25 years manufacturing output (measured by output per hour) has nearly doubled - new machines, better methods and computers.
- General skills in problem solving, communications and knowledge work are required.
- The economy now seems to be 24/7 with people rotating in shift work which can be quite unsocial..
- More people take work home – portable computers, connections to company intranet etc.
- People can be contacted at home via pagers, mobile phones, e-mails etc. The traditional 9 to 5 mentality has largely been eroded. Some commentators suggest that there are fewer workers but those that do work harder than they ever have done and are often more highly skilled than they ever were.
- Organisations increasingly outsource to 3rd world countries were there is a highly skilled and cheap workforce.

http://www.computing.co.uk/News/1123924  http://www.vnunet.com/News/1129348

Changing Shape of Organisations

- More people are working for themselves as consultants on short-term contracts.
- Or for small businesses that have sprung up.
- Large organisations are becoming “flatter” i.e. less hierarchical. People are working in groups or teams rather than individually.
- Organisations use ICT as a **competitive advantage** to implement new technologies and to reap **economies of scale**.

http://www.nchadderton.zen.co.uk/front.htm  Page 1 of 13
Some general factors concerning ICT include:-

<table>
<thead>
<tr>
<th>BENEFITS</th>
<th>DRAWBACKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The increased use of <strong>expert systems</strong> means better sharing of skills e.g. surgeons</td>
<td>Possible health risks e.g. RSI, bad backs, sight</td>
</tr>
<tr>
<td>Better use of scarce resources <a href="http://www.doh.gov.uk/shareservices/about/your_guide.htm">http://www.doh.gov.uk/shareservices/about/your_guide.htm</a></td>
<td>Computer Crime</td>
</tr>
<tr>
<td>Enable the disabled <a href="http://www.eagle.co.uk/disabled/">http://www.eagle.co.uk/disabled/</a></td>
<td>Errors/bugs (Millenium Bug)</td>
</tr>
</tbody>
</table>

**ICT AND MANUFACTURING AND INDUSTRY (CHAPTER 3)**

- **Competitive advantage and economies of scale**

  - Products are now more complicated and manufacturing is more sophisticated
  - **Prototyping** is forcing lower prices

  [http://www.nas.nasa.gov/IT/idt.htm](http://www.nas.nasa.gov/IT/idt.htm)

  Design is less expensive. Computers have significantly reduced the time it takes creative people to put an idea onto paper e.g. Architects, designing prototypes.

- **CAD/CAM/CAE**

  - **CAE** (Computer Aided Engineering) structural design/architectural programs that will calculate breaking strength on design parts. Design new chips.

- **Stock Control**

  - Stock Control - automatic reordering, warnings of low stock levels, list of components needed for manufacture

- **Expert Systems**

  - Expert systems - make decisions as well as provide information
Robots p.14

- Sensors capture the data
- A microprocessor processes the data
- Actuators produce movement
- A robot can be used for:
  - spray painting
  - spot welding
  - security
  - underwater oil rig maintenance
  - vehicles in space exploration (e.g. Pathfinder)

Employment by Industry – fed by ICT

Employment in different industries has changed significantly in the last 20 years. Many people have lost jobs because of computers (e.g. banking and factory work) but lots of other jobs have been created because of computers. Computers have changed the way people work. There has been a move away from the Manufacturing and Production sector to the Service sector, as the table below illustrates:

<table>
<thead>
<tr>
<th>Industry</th>
<th>September 1978</th>
<th>September 1998</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Fishing, Energy and Water</td>
<td>5%</td>
<td>2%</td>
<td>-3%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>30%</td>
<td>17%</td>
<td>-13%</td>
</tr>
<tr>
<td>Construction</td>
<td>6%</td>
<td>5%</td>
<td>-1%</td>
</tr>
<tr>
<td>Distribution, Hotels and Restaurants</td>
<td>18%</td>
<td>23%</td>
<td>+5%</td>
</tr>
<tr>
<td>Transport and Communication</td>
<td>6%</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>Banking, Finance and Insurance</td>
<td>11%&gt;</td>
<td>19%</td>
<td>+8%</td>
</tr>
<tr>
<td>Public Admin, Education, Health and</td>
<td>24%</td>
<td>28%</td>
<td>+4%</td>
</tr>
<tr>
<td>Other Services</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teleworking P.3/4

Benefits:
- It may be easier to concentrate at home
- Increase employee productivity, quality of life and morale
- Environmental and economic benefits of less commuting
- Workers enjoy greater flexibility (good for working mothers)
- Employment opportunities for disabled people
- Employers save the cost of office space, heat and light
- People can be recruited from a wider geographical area
- Can live anywhere

Problems:
How can management control the workforce?
(Conversely) how can unions prevent workers being exploited?
Employees may feel isolated and lonely i.e. Lack of social interaction
Employees may find it difficult to separate work and home lives
Employees may be distracted at home
Employees may find it difficult to work in teams
Loss of sense of loyalty to company

In the industrial revolution, people moved from the countryside to the cities. Now, this trend is being reversed. People can work in "telecottages" on the other side of the world to their employer's business. e.g. workers in India do data processing sent to them overnight by London Transport. Workers on farms in Northern Ireland do work for Silicon Valley companies who can't afford to employ local labour. The attraction to employers is that they can recruit the cheapest labour in the world, whilst keeping their offices in prestige locations.

ICT IN BUSINESS AND COMMERCE
New technology has changed business and commerce
- New products emerged in the last couple of decades: fax machines, mobile phones, CD players, VCRs, computer games
- New services: caller ID, ringback, online shopping, online banking, Email, barcode scanning.
- These new developments of the “information revolution” have significantly changed the way business is done.
- Remote Data Banks - Dow Jones, Legal Services
- Consider examples of using technology to get customers to do their work for them (automatic petrol stations)

Using ICT in a Small Business p.8/9

<table>
<thead>
<tr>
<th>Word processing (document oriented) (Design invoice stationary, send mailshots etc)</th>
<th>Desk Top Publishing (page oriented) (Design advertising, promotional material etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teleconferencing</td>
<td>Desktop Organisers</td>
</tr>
<tr>
<td>EDI</td>
<td>Presentation packages</td>
</tr>
<tr>
<td>Accounts packages</td>
<td>Project Management</td>
</tr>
<tr>
<td>MIS</td>
<td>Fax</td>
</tr>
<tr>
<td>Internet (communication, online sales)</td>
<td>E-Mail</td>
</tr>
<tr>
<td>Spreadsheet (Help set up business plan by calculating expected income and expenses. Perform “what if” queries to test the effect of raising or lowering prices).</td>
<td>Graphics (Create high quality commercial documents i.e. design logo, headed stationary, business cards etc.)</td>
</tr>
<tr>
<td>Database (keep a mailing list)</td>
<td></td>
</tr>
</tbody>
</table>
### ICT in banking p.9

<table>
<thead>
<tr>
<th><strong>Advantages</strong></th>
<th><strong><a href="http://www.clustan.com/banking.html">http://www.clustan.com/banking.html</a></strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephonic Banking</td>
<td></td>
</tr>
<tr>
<td>ATMs</td>
<td></td>
</tr>
<tr>
<td>Debit and Credit Cards</td>
<td></td>
</tr>
<tr>
<td>MICR, EFT</td>
<td></td>
</tr>
<tr>
<td>Direct Debit (salaries, bills etc.)</td>
<td></td>
</tr>
<tr>
<td>Electronic Smartcards (e.g. Mondex)</td>
<td></td>
</tr>
</tbody>
</table>

### Shopping on the Internet P.9

**Advantages:**
- Open 24/7
- By asking customers to “register”, businesses can build up databases/customer profiles
- People can shop without leaving home

**Drawbacks:**
- Some people actually enjoy going out shopping
- Security concerns (credit card fraud etc.)
- Waiting for goods to arrive (or the wrong goods arriving)
- Technological Underclass (the poorest people in society have the least access to the new technology.)
- In 1996 40% said they had never used any of the tools of the technological age, including computers, mobile phones etc)
- Only 9% of economic groups C2/E/D have ever used the Internet.

### ICT AND EDUCATION

<table>
<thead>
<tr>
<th><strong>Advantages</strong></th>
<th><strong><a href="http://www.downes.ca/future/">http://www.downes.ca/future/</a></strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-education courses e.g. computer based CD courses - select own course, follow videos text etc. Interact</td>
<td></td>
</tr>
<tr>
<td>CAI (Computer Assisted Instruction) - ask questions, keep track of answers, adjust presentation to students demonstrated knowledge and experience</td>
<td></td>
</tr>
<tr>
<td>Company training programs e.g. airlines use IT to train pilots and mechanics</td>
<td></td>
</tr>
<tr>
<td>Wide use of software</td>
<td></td>
</tr>
</tbody>
</table>

### Access to ICT facilities

- [http://www.kids-op-rama.com/quicklinks/educat.htm](http://www.kids-op-rama.com/quicklinks/educat.htm) - Updated monthly

### ICT AND MEDICINE (CHAPTER 4)

<table>
<thead>
<tr>
<th><strong>Advantages</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Computerised storing of patients records - more secure and less likely to go astray</td>
<td></td>
</tr>
<tr>
<td>Databases of organ donors</td>
<td></td>
</tr>
<tr>
<td>Computerised devices such as pacemakers, artificial organs and limbs</td>
<td></td>
</tr>
<tr>
<td>Computerised monitoring devices on patients</td>
<td></td>
</tr>
<tr>
<td>Software to help diagnosis (Expert System/knowledge base)</td>
<td></td>
</tr>
</tbody>
</table>
Remote operations (see Robot Surgeon case study)
Computers can model the effect of new drugs (see Deeper Blue case study)
Using a computerised robotic arm to remove tissue samples from suspected brain tumours that are difficult for surgeons to reach. Eliminates need for general anaesthesia, reduces trauma to the brain, allows patients to go home the day after brain surgery, instead of a week or more later.
Future - repair blood vessels, guide laser beams to tumours.
VR Simulations to help doctors “practice” surgery
Models to try out new drugs and techniques.
Telecommunications and use of robots - long-distance surgery on battlefield.
Better use of Medical records can improve patient care
Improved tracking of donors
Pacemakers, artificial organs etc.
Data logging in Intensive Care Unit
Use of expert systems

http://news.bbc.co.uk/hi/english/health/newsid_1274000/1274438.stm - This is a BBC news report, which starts as follows:
"Doctors are being faced with a brand new condition - "cyberchondria" or "internet print out syndrome". Patients are now using the internet to find out more about their illnesses, but often mis-diagnose symptoms or stumble across quack cures."

http://news.bbc.co.uk/1/hi/technology/2288619.stm - Telemedicine

ICT AND THE HOME
http://www.microsoft.com/net/

COMPUTERS AND THE DISABLED
Case study: Eyes in the Sky - use of the GPS (Global Positioning System) to navigate blind people around towns
Stephen Hawking, Christopher Reeves
Scanners can convert printed text to verbal output for visually impaired.
Implanted devices can improve mobility.
http://www.stakes.fi/include/ch_4_05.html - Smart Houses
### QUESTIONS

**1995 (20 marks)**

“The debating society at a local college is holding a debate on the following motion:

- ‘The application of Information Technology is socially and ethically wrong and will have no lasting beneficial effects on individuals, organisations or society in general’
- You have been offered the choice of speaking either FOR or AGAINST the motion. Select and name your choice and discuss, with *specific examples*, the issues you would use to support your speech.

**MARK ALLOCATION** - 10 for points made on individuals, organisations and society, 5 for moral issues, 5 for presentation and coherence of argument

**Paragraph 1 Introduction** with choices and how you intend to answer

**Paragraph 2 Effects on people**

<table>
<thead>
<tr>
<th><strong>de-skilling or regular skill enhancement and education</strong></th>
<th>** redeployment or regrading**</th>
</tr>
</thead>
<tbody>
<tr>
<td>changes in working practices</td>
<td>reduction of labour-intensive jobs and move to service industries</td>
</tr>
<tr>
<td>redundancy for those that can’t re-skill</td>
<td>changes in working conditions - cleaner and safer</td>
</tr>
<tr>
<td>health and safety issues</td>
<td>shorter working week and more leisure time</td>
</tr>
<tr>
<td>working from home is favourable to certain groups</td>
<td>positive application of IT for disabled</td>
</tr>
<tr>
<td>development of AI apps e.g. medical expert systems</td>
<td>loss of human interaction e.g. customer services at banks, automated trains</td>
</tr>
</tbody>
</table>

**Paragraph 3 Effects on organisations**

<table>
<thead>
<tr>
<th><strong>changes in product or services supplied to maintain customer base</strong></th>
<th><strong>changes in working practices to maintain efficiency and competitiveness</strong></th>
<th><strong>growth of networks and the multi-national organisations</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>changes in departmental structures and traditional organisation methods</td>
<td>reduction in the traditional role of unions</td>
<td>reduction in demarcation of roles</td>
</tr>
<tr>
<td>elimination of direct labour e.g. chemical plants</td>
<td>growth in contracting out for services</td>
<td>changes in staff roles hence the need to provide training</td>
</tr>
</tbody>
</table>

**Effects on both** - increased reliance on performance indicators derived from data because they can be rather than they are relevant

**Paragraph 4 Effects on society**

<table>
<thead>
<tr>
<th><strong>improvements in working conditions and life expectancy</strong></th>
<th><strong>shorter working hours and more leisure time</strong></th>
<th><strong>threats of increased automated control and lack of privacy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>economic divide of geographical areas</td>
<td>polarisation of people into two groups</td>
<td>development of surveillance systems - video of car number plates linked to database</td>
</tr>
<tr>
<td>long term change to service industry</td>
<td>growth of computer crime</td>
<td>growth of totalitarian state i.e. privacy issues</td>
</tr>
</tbody>
</table>

**Paragraph 5 Conclusion should discuss moral issues**

*Is social development determined by technology or is technology a product of the culture*
which is shaped by political and moral choices?

Does technology produce further depersonalisation or will it enhance communication between individuals and cultures?

Is technology being developed to improve the good of all, increasing individual freedom and reducing inequalities of wealth and power or does it threaten to have the opposite effect?

Is the application of technology inevitable or should a society resist its use to ensure more equitable social status?

Discussion of ethical issues within IT profession - Code of Ethics - Social responsibility, Integrity, Protection of Privacy, Education, Discretion.

Specific examples should be drawn from those mentioned above such as

Refer to batch, interactive, real time processing

<table>
<thead>
<tr>
<th>Comms</th>
<th>payroll</th>
<th>stock control</th>
<th>accounts</th>
<th>electronic office</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD</td>
<td>robotics</td>
<td>automated</td>
<td>traffic management</td>
<td>monitoring systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>warehouses</td>
<td>systems</td>
<td></td>
</tr>
<tr>
<td>finance</td>
<td>education</td>
<td>health service</td>
<td>expert systems</td>
<td></td>
</tr>
</tbody>
</table>
1998.2 (8 marks)
Briefly describe two social impacts and two organisational impacts commonly identified as a result of introducing computerised information systems into business organisations.

Two social impacts:
- Telecommuting: ability to work from home, growing numbers
- Dependency on computers: no longer is it just inconvenient when a system is down, often organisations lose millions of pounds of revenue.
- Computer crime: new types of crime, need reviews of legislation
- Speed of change: managers often suffer from info overload and increased pressure as a result of ever increasing workload. Adapting to changes and result in increased workload.
- Erosion of boundaries: Blurring, staying at home to work, shop etc. will erode the boundaries between work and play: results in less social interaction

TO MAX OF 4 MARKS

Two organisational impacts:
- Quality of work life: degree to which jobs are interesting, satisfying and physically comfortable
- Changes in organisational structure: computers may empower lower level workers, some organisations become flatter
- Reduced employment: evidence exists to show that labour forces reduced in both white and blue collar sectors of business and industry
- Employment changes: training issues
- Training / Skill level of work force.
- Detrimental effects on support services.

MAX OF 4 MARKS

(For points above there must be a clear statement of the issues. Whilst lengthy discussion is not required, short phrases of 4 or 5 words are unacceptable at A level. 1 mark for statement and one mark for description. C/F and C/B marks for social)
1996 and 1993 (20 Marks)
“The growth of communications systems may result in an increasing number of people working from home, often referred to as telecommuting.’
Discuss with the aid of specific examples, the advantages and disadvantages to individuals, organisations and society of such methods of working.

MARK ALLOCATION - 5 for points made from each viewpoint, 5 for presentation and coherence, specific examples - i.e. type of jobs and organisations. Acceptable to discuss which could not telecommute. Answers without reference to examples maximum of 12 marks

Specific examples might be drawn from:

| Building Societies: design and system testing from a different continent |
| Banking systems: local business managers logging customer reports, requirements and appointments from the field |
| Multi-national car manufacturer: district managers allocating stock to dealers and trouble-shooting customer complaints |
| Regional newspaper: journalists file stories and chase leads from bespoke central system |
| Telecottage projects: as set up in some rural areas e.g. remote accountancy systems |
| Software houses: system testing and software support on a national basis from the home base of employees |

Must relate these examples to IT specific tasks and exhibit knowledge of IT or the type of application likely to use telecommuting

Paragraph 1: Introduction - What telecommuting is, how you intend to organise your essay

Paragraph 2: The Effects on individuals with examples
- changes in skills required, de-skilling or regular skill enhancement
- changes in working practices - two days in the office, three at home
- more flexible working hours but these could be more rigidly accounted for
- less social interaction
- loss of creativity that comes from interaction
- could live anywhere
- loss of status e.g. no plush office
- problem in finding quiet area at home

Paragraph 3: Effects on organisations with examples
- changes in working practices and organisational structures
- staff appear to have more freedom - may not fit into organisational culture
- difficult to arrange emergency meetings
- costs - equipment and on-line charges
- security - hacking
- employees become more productive but less creative
- Health and Safety less of a problem

Paragraph 4: Effects on Society with examples
- more flexible working hours - leisure time increases the leisure industry
- threats of increased automatic control and never off the job
- reduction in city centre and transport usage - environmentally friendly but cities devoid of people
- increase opportunities for disabled
- family arguments could cause stress

Paragraph 5: Conclusion
June 2001

5. A supermarket chain operates an automatic ordering system between the stores and a central warehouse.

a) State two advantages for the store of using an automatic system. **2 marks**

b) Explain one advantage for the supermarket’s customers of the store using an automatic stock control system. **2 marks**

<table>
<thead>
<tr>
<th>a) One mark for each point maximum 2 marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>• speed of ordering (1)</td>
</tr>
<tr>
<td>• store can be kept fully stocked/no overstocking (1)</td>
</tr>
<tr>
<td>• reduction in staff time spent on stock ordering (1) / staff costs – less staff (1)</td>
</tr>
<tr>
<td>• automatic ordering means lack of human error/fraud (1)</td>
</tr>
<tr>
<td>• increased accuracy/ know exactly what stock they have at any one time (1)</td>
</tr>
</tbody>
</table>

**DO NOT ALLOW**

• it is very quick
• it is easier to use
• preventing being left with unsold stock

**WE ARE NOT TALKING ABOUT ROBOTICS HERE**

**BUT other advantages acceptable e.g. stats produced – executive decisions can be made**

b) Customer finds goods they require in stock (1) if levels maintained automatically (1) customer finds prices may be lower (1) if less staff used/less wastage in stock/less space needed for stock (1)

1 mark for stating advantage, second mark for explaining. NB stating two advantages with only one explanation 1 mark only.

January 2002

9.

A large clothing retailer has decided to set up an on-line store.

(a) Explain two advantages to the retailer of using this method of selling as opposed to selling from a high street shop. **4 marks**

(b) Explain one advantage to the customer of using the on-line store rather than a high street shop. **2 marks**

(c) State one disadvantage to the customer of using the on-line store rather than a high street shop. **1 mark**

(d) Describe two ways in which the retailer could make use of the Internet to publicise its new service. **4 marks**

<table>
<thead>
<tr>
<th>a) 2 °— 2 marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in retail space/staff (1) cost savings (1) NB includes staff and space so not separate points</td>
</tr>
<tr>
<td>JIT/Reduction in stock/warehouse space/investment in stock (1) cost savings (1)</td>
</tr>
<tr>
<td>Increased customer base (1) increased sales/profits (1)</td>
</tr>
<tr>
<td>Keep up with competition (1) prevent loss of sales (1)</td>
</tr>
<tr>
<td>Cost savings (1) due to decrease in shoplifting (1)</td>
</tr>
</tbody>
</table>

b) 1 °— 2 marks

Saves time/cost of travel (1) no need to visit shops/saves time searching for what you want (1)

Allows people with limited movement (1) to shop from home (1)

Saves leaving home (1) crowds/comfort factor/convenience (1)

c) 1 mark

Cannot try on clothes (1)
Possibility of fraud (credit card) (1)  
Social interaction/ direct help from sales staff lost (1)  
Time delay between purchase and receipt of goods (1)  
d) 2 °— 2 marks  
Adverts on ISP homepages/Gateway sites (1) attract new custom/promote company(1)  
Links set up from other sites (1) allows customers to find store (1)  
Email (1) potential customers to gain more trade/promote company (1)  
Register with search engines (1) allow more people to find site (1)

2000.8. The use of IT by both individuals and organisations is having a dramatic effect on the way in which people live and work.  
Discuss this statement using specific examples Reference should be made to all of the following:  
• the effects on individuals  
• the effects on organisations  
• the effects on society

One mark per effect, positive or negative  
NB: Must be explained for mark  
The maximum on any one section is 7 marks

Typical examples might be:  
**Individuals:**  
Working habits  
Shopping habits  
Leisure  
Communication

**Organisations:**  
Retraining  
Redeployment  
De-skilling  
Changes in working practice  
Regrading and improvements in career prospects  
Changes in working conditions  
Increased legal responsibilities  
New services can be offered

**Society** -ñ  
Increased productivity  
Higher standard of living  
Cleaner and safer working environment  
Shorter working hours and more leisure time  
Polarisation of society into two groups  
Threat of a totalitarian state  
Invasion of privacy  
Growth of techno crime  
Improvements in provision of services

4 marks to be allocated for Quality of Language
June 2003.2 (2 marks)
Banks keep records of customers and their bank accounts. Give one example for each of the following

   a. data that are recording facts;
   b. data that are the result of a transaction.

June 2003.9 (8 marks)
State one way in which ICT can be used by each of the following organisations, and give a benefit to that organisation of using it. Your examples must be different in each case:

   a. the Police
   b. a hospital
   c. a coach company
   d. a publishing company