

# ICT AS MODULE 1 JUNE 2001(FINAL)

BJW/APRIL23RD2001

## 1. Explain what is meant by Information and Communications Technology?

**3 marks**

Any suitable definition that covers:

Input/collection/gathering/ (1)  
Processing/manipulation/changing/sort/organise(1)  
Storage(1)  
Transfer/pass on/send/exchange/shared(1)  
Output/accessing/produced/find/find out(1)

1 mark for each to maximum of 3 marks

ALSO ACCEPT:

Use of computers to do.....certain tasks etc(1)  
Use of electronic/computer technologies(1)  
Human interaction with a computer(1)  
Technology = hardware/examples of hardware(1)  
                    Software(1)  
Application of science/computers to everyday tasks(1)

NO MARKS FOR:

communicate/communications unless example given of how e.g. using the internet  
using new technology to make life easier/better standard of living (Does not infer  
information)

WATCH OUT FOR DUPLICATION AND ALSO SEPARATE DEFINITIONS OF  
INFORMATION AND COMMUNICATIONS TECHNOLOGY

CANDIDATES HAVE NOT FOUND THIS AN EASY QUESTION SO NEED TO BE FAIR IN  
MARKING REASONABLE ATTEMPTS EVEN IF WORDING IS DIFFERENT BUT WANT TO  
ENSURE ONLY THE REALLY GOOD CANDIDATES GET 3 MARKS

2. The expression "Garbage in, garbage out", or "GIGO ", is often used in connection with information processing systems.

Explain, using an example, what is meant by this expression.

4 marks

Sample answer might be "the information output from the system will be wrong(1) if the data that is entered into the system is incorrect(1) - must use information and data in the correct context.

An example would be if the price of a can of baked beans is entered as 24p when it is really 35p (1) then if a customer buys 3 cans of beans the bill will say 72p instead of £1.05.(1)

Looking for key points of incorrect input gives incorrect output.

2 MARKS EXPLANATION - INPUT OUTPUT

2 MARKS EXAMPLE - INPUT OUTPUT

WATCH OUT FOR PARAPHRASING OF THE QUESTION

NOT ANYTHING TO DO WITH RECYCLE BINS!!!!

BE CAREFUL ABOUT SURVEYS

SEEMS TO HAVE CAUGHT QUITE A FEW OUT BUT CAN'T SEE ANY REASON TO BE LENIENT ON THIS!!

3. A travel firm arranging package holidays in Spain for the 2001 season uses data obtained from a survey of their customers' favourite holiday resorts in 1997. Explain:

a) Why the data from 1997 might not be suitable for use to predict the requirements for 2001;

b) What the effect on the company might be if it used the 1997 data.

4 marks

- a) Looking for recognition of data being out of date(1) and reason why (1)

data from 1997 too old and inaccurate/out of date(1) peoples tastes change,/hotels alter/ resorts change(1)

SECOND MARK DEPENDANT ON FIRST TO AVOID THE PROBLEM OF NON ICT ANSWERS. WE CANNOT GIVE MARKS JUST BECAUSE REASONS E.G. WAR NOT RELEVANT TO SPAIN!!!

- b) Looking for recognition of an effect in business terms of using out of date information  
book wrong hotels/arrange wrong holidays(1) lose money/go out of business(1)  
unable to predict room/aircraft utilisation(1) resulting in over/underbooking(1)  
price holidays wrongly due to wrong assessment of demand(1) and so lose money(1)  
fail to recognise needs of market(1) and so lose business(1)

1 MARK FOR EFFECT 1 MARK FOR RESULT ON BUSINESS

NOT ANYTHING TO DO WITH DP ACT

4. Mrs Jones has bought a book on gardening from a book company on the World Wide Web. She has now started to receive e-mails about garden furniture, and plant catalogues through the post.

a) Explain why Mrs Jones has started to receive the e-mails and the catalogues.  
2 marks

b) Some people are worried about ordering goods using credit cards over the Internet. Explain what can be done by the book company to prevent credit card details being misused.

2 marks

4 marks

- a) Looking for the principle that Mrs Jones has given her details to the book company when ordering over the Internet and that the details have been passed/sold by them to other companies who are now targetting Mrs Jones.

1 mark for has given her details to the company and 1 mark for them having passed the details on to other companies.

Also give credit if candidate describes the fact that Mrs Jones must not have read the details on the on line form correctly, or at all(1) and has thus allowed her details to be passed on(1)

Or

That the company has not complied with the 1998 DP Act (1) and has passed on details without permission. (1)

NOT THAT THE COMPANY KNOW THAT SHE LIKES GARDENING

- b) encryption/encoding of credit card details(1) to ensure data cannot be understood if intercepted(1)

Give credit for mentioning SSL (Secure Sockets Layer) or S-HTTP(Secure HTTP) both of which are encryption protocols.

Only part of stored credit card details shown(1) so whole card details only in encrypted form(1)

Site should ensure checking of physical address against credit card(1) or with bank (1) to ensure correct person using(1)

Book company using firewalls(1) to prevent hackers from gaining credit card details from the companies machine(1)

DO NOT ALLOW JUST TO PREVENT HACKERS - MUST BE THE REASON FOR THE SECOND MARK

Allocating customers unique ID's/passwords(1) so don't have to enter credit card details every time and thus reduce chance of misuse(1)

Company staff - code of practice/procedures(1) how this will prevent details being misused(1)

MUST SAY REDUCING CHANCE OF MISUSE OR SIMILAR

1 MARK FOR WHAT AND 1 MARK FOR WHY

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

4 marks

a) one mark for each point maximum 2 marks:

speed of ordering(1)

store can be kept fully stocked/no overstocking(1)

reduction in staff time spent on stock ordering(1)

automatic ordering means lack of human error(1)

increased accuracy/ know exactly what stock they have at any one time(1)

DO NOT ALLOW

It is very quick

It is easier to use

WE ARE NOT TALKING ABOUT ROBOTICS HERE

BUT other advantages acceptable

b) store should not run out of items customer wants(1) if levels maintained automatically(1)

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.

OTHERWISE NO DISCRIMINATION FOR THE EXPLAIN MARK

6. Browsers and search engines are two items that are associated with the use of the Internet. Explain what is meant by :

i. a browser;

2 marks

ii. a search engine.

2 marks

b) In order to use the Internet, the owner of a PC at home normally needs to register with an Internet Service Provider (ISP). State two services, in addition to e-mail, that an ISP could provide.

2 marks

c) Changes in technology now mean that it is no longer necessary to have a PC to be able to use some Internet services. Give two devices that can be used instead.

2 marks

d) Explain why it is possible to send e-mail successfully to someone who has not got his or her PC switched on.

2 marks

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10 marks

a) i. A browser

2 marks

Used to display/view/download web pages (1) in a human understandable form (1)

Display HTML(1) in viewable form(1)

Enables user (1) to navigate the web/move between pages of HTML/going backwards and forwards(1)

Software/application program(1) enabling viewing(1)

NOT SEARCH AND DEFINITELY NOT SURF AND NOT TRADE NAMES  
NOT JUST ACCESS THE INTERNET

ii a search engine.

2 marks

Used to find specific pieces of data/web pages/information(1) using key words (1)

Piece of software/application program(1) used to find sites/words/topics(1)

2 marks

b) Provides address (1)  
Web space/editor to create web pages(1)  
Chat rooms/newsgroups(1)  
Search Engines(1)  
News/provide information(1)  
Goods for sale, auctions, shopping (1)  
Virus protection(1)  
Net nanny(1)  
Technical help(1)

Customisation of internet interface(1)

And others 1 mark each

ALLOW CHEAP DEALS - FREEPHONE NUMBERS ETC

NOT PIECES OF SOFTWARE SUCH AS COMMUNICATIONS  
SOFTWARE/BROWSERS AS THESE ARE NOT SERVICES

2 marks

- c) WAP phones(1) MUST BE WAP PHONES NOT NEW MOBILE PHONES  
E-mail telephones/new BT telephone boxes/BT Easycom (1)  
Televisions with digital capabilities(1) i.e. Digital Tv or normal Tv plus box(on digital  
for eg)

NOTE PADS/PALM TOPS AND PDA'S(PERSONAL DIGITAL ASISSTANTS)

MUST HAVE MORE THAN JUST TELEVISIONS  
**DON'T ALLOW LAPTOPS-CLASSING THESE AS PC'S**

- d) ISP stores messages on server (1) until addressee collects mail (1)  
2Marks

NOT STORED ON NETWORK or in modem



- 7 a) Describe what is meant by a software licensing agreement. 2 marks
- b) Mr Patel has a single user software licensing agreement for a word processing package, which specifies that there must only be one copy in use at any one time. Would he be guilty of breaking the agreement if he installed the package on his laptop PC, as well as on his stand-alone PC at work? Explain your answer. 2 marks
- c) A college network has a server and 20 stations. What type of licensing agreement would be suitable for a word processing package that may be used at the same time on all 20 stations? 2 marks
- d). Breaking a licensing agreement is one type of offence that a computer user can commit. Some other offences are covered by the Computer Misuse Act. Explain, using examples, level 1, 2 and 3 offences under the Computer Misuse Act. 9 marks
- 15 marks

- a) An agreement on how a piece of software may be used/legal document/contract  
(1)Agreement is between user and producer of software. (1)

REMEMBER THAT NOT ALL SOFTWARE IS SOLD  
IF ONLY MENTION USER OR PRODUCER THEN 1 MARK ONLY

- b) No. (1) they are not committing an offence provided they only use the PC or the laptop at any one time (1).

- c) A multi user licence agreement/site licence/network licence (1) for a minimum of 20 copies/number specified (1) of the software to be used at any one time

IF TWENTY SEPARATE LICENCES 1 MARK ONLY

- d) Level 1 - **unauthorised access (1)** to material **without any intent (1)** to do anything other than just gain access. An example would be the student who gains access to the administrative side of a college network or to another student's user area. The person who tries to get into a system just for the hell of it. (1)  
Here user is not doing anything as such

Level 2 - **unauthorised access (1) with intent to commit (1)** or to facilitate commission of further offences. For example accessing bank records with the intent of committing fraud. Accessing personal details with the intent of committing blackmail. (1)  
Here user is using the data itself for other purposes

Level 3 - **unauthorised modification (1)** of computer material. The code or data is actually changed rather than simply viewed and used. For example changing the balance in a bank account, altering someone's credit status, changing an examination mark./  
Introduction of viruses (1).

Here user changes data/software in some way

Viruses come under this level

8. An advertisement for an IT support worker to join the PC support team in a company specifies that the applicant must be "willing to work flexible hours, be able to communicate well orally, have good written skills and get on well with a wide variety of people".

Explain, giving examples, why each of these characteristics is important for someone working in such a role.

8 marks

1 mark for reason for each personal quality listed and one mark for a sensible example.  
NB Question deliberately states **support** role but leaves this fairly open to interpretation

**Willing to work flexible hours** - user support roles require the ability to stick at problems and see them through (1) may entail working when users don't need equipment e.g. installing new software or fault correction (1)

**Be able to communicate well orally** - - to enable efficient and effective communication with users/or colleagues (1) - e.g. interviewing and questioning effectively to obtain end user requirements (1)

**Good written communication skills** - ability to write documentation both technical and end users (1) e.g. necessary for recording faults clearly and documenting solutions (1)

**Get on well with a wide variety of people** -Ability to work as part of a team (1) - means able to exchange views, share information, usual way of working in many IT establishments (1).

Also acceptable be able to deal with wide range of clients(1) plus example(1)

THE EXAMPLES SHOULD BE RELEVANT TO THE USER SUPPORT ROLE TO GET 2 MARKS

Max 8

9. Poorly designed computer workstations can lead to health problems. State three features of a well designed workstation, and for each one state the health hazard that will be prevented.

6 marks

One mark for the feature and one mark for the health hazard designed to prevent

Tiltable/adjustable screen(1) prevent neck strain(1)

Sufficient desk space to rest hands(1) - RSI(1)

Provision of wrist support(1) - RSI(1)

Ergonomic/Five point chair/adjustable/provides back support(1) prevent backache(1)

NOT COMFORTABLE

Footrests(1) preventing backache(1)

High quality screen to reduce flicker/screens facing away from windows(1) preventing eyestrain(1)

Etc

NOT

WIRES

VENTILATION

LIGHTING UNLESS MADE RELEVANT

OR OTHER GENERAL OFFICE FEATURES

NOTE QUESTION SAYS WORKSTATION NOT OFFICE DESIGN

SCREEN FILTERS? WHAT SORT? NOT REALLY PART OF THE WORKSTATION

NB NOT LOW RADIATION MONITORS AS NOW COMPULSORY

10 a) State why an organisation must apply for entry onto the Data Protection Register. 1 mark

b) State three items of information that must be provided by the data user about the data that is to be stored 3 marks

4 marks

a) Legal requirement/Data Protection Act requirement

1 mark

b) For each purpose data is to be stored:  
Description of Purpose(s) data to be stored for (1)  
Data to be stored (classes) (1)  
Who will have access to the data (recipients) (1)  
Any organisations to whom data will be passed on (transfers) (1)  
Sources of data/how the data has been acquired(1)

To maximum of 3 marks

4 marks

NOTE QUESTION IS ABOUT WHAT IS STORED ABOUT THE DATA USED THIS MEANS  
NAME, ADDRESS ETC ARE NOT ACCEPTABLE

**WATCH DON'T PENALISE ENGLISH RATHER THAN KNOWLEDGE**

11. Explain, with reasons, two levels of access that could be given to different categories of users of an on-line stock control system.

4 marks

Stock manager-read/write access (1)- ability to add delete and amend records of stock e.g. add a new product, delete a product out of stock, change prices (1).

Sales staff - read/write access (1) need to be able to see details about stock and to change data as sales are made(1)

Store manager - read/view only access(1) - needs to be able to view(read) data but not change it(1)

Any 2 x 2 marks

4 marks

Be careful with sales staff access - they do need read/write access not just read

Suspect that most answers will mention lower level staff read only and managers read/ write

I feel we probably ought to allow this as we are asking for knowledge of access levels not management/worker tasks.

The second mark is the discriminator, so don't give it away!!

This question is about the types of access that can be given not how it is controlled and so nothing on passwords etc gains credit.

12. A firm of engineers in the United Kingdom has been given the task of designing a new building in Australia. As one of the methods of communicating with the clients it has been suggested that the company uses videoconferencing

a) Explain what is meant by the term videoconferencing.

4 marks

b) Give two advantages and two disadvantages to a company of using this approach as compared with non-ICT methods.

4 marks

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8 marks

- a) Videoconferencing is the action of individuals or groups of people at different locations (1)  
having an interactive (1) discussion  
enabled by the use of telecommunications (1)  
video link/equipment needed as **video** conferencing/idea of real time(1)

One mark for each point to max of 4

b) Advantages

Saves cost of travel  
Saves time taken to travel  
Useful when quick response needed  
Physical items can be shown/discussed e.g. models of buildings  
Can see expressions on faces

Disadvantages

Quality of images can be poor/time delay  
Investment in set up can be high  
Training in how to use needed  
Loss of social interaction  
Control of meeting is more difficult

**NB** Time differences not acceptable as applies to non ICT methods as well as ICT methods!

TOTAL MARKS FOR PAPER = 74