



MARKSCHEME

November 2009

INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY

Higher Level and Standard Level

Paper 1

*This markscheme is **confidential** and for the exclusive use of examiners in this examination session.*

*It is the property of the International Baccalaureate and must **not** be reproduced or distributed to any other person without the authorization of IB Cardiff.*

Examiners should be aware that in some cases, candidates may take a different approach, which if appropriate should be rewarded. If in doubt check with your Team Leader.

In the case of an “identify” question read all answers and mark positively up to the maximum marks. Disregard incorrect answers. In the case of a “describe” question, which asks for a certain number of facts *e.g.* “describe two kinds”, mark the **first two** correct answers. This could include two descriptions, one description and one identification, or two identifications.

1. (a) (i) **Identify *one* input device the courier company could use to enter the barcode information from the delivery label.** [1 mark]

- scanner
- light pen.

Award [1 mark] for any of the above points up to a maximum of [1 mark].

(ii) **Identify *one* device in the van which can report its location to the courier company.** [1 mark]

- PDA/BlackBerry
- GPS equipment
- cell (mobile) phone
- tracking system.

Award [1 mark] for any of the above points up to a maximum of [1 mark].

(b) **Describe the steps that the courier company’s IT system uses to determine the location of the package.** [4 marks]

- package scanned at each stage of its journey
- database holds package identity
- database holds current location of each package
- location field updated in real time when scanned
- location field can be accessed at any time
- database searched by package ID
- read from database record location.

Award [1 mark] for any four of the above points up to a maximum of [4 marks].

- (c) **Explain why it is an advantage for the courier company to know the location of each package at any time.** **[4 marks]**

Answers may include:

- can monitor its own performance
- can monitor driver performance
- can answer customer enquiries
- can predict delivery times
- can prove to customer that a consignment has been delivered.

[1 mark]

A limited response that indicates very little understanding of the topic.

[2–3 marks]

A reasonable description, although the answer may lack appropriate reasoning at the bottom of the band.

[4 marks]

A clear, detailed explanation of the issue with reasons.

2. (a) **Identify *two* technical reasons why the quality of videos viewed from web sites can be limited.** [2 marks]

- very large files
- download speed is limited
- bandwidth may be insufficient
- compression may be lossy.

Award [1 mark] for any two of the above points up to a maximum of [2 marks].

(b) **Describe *two* reasons why some web-based videos do not play at all on a home computer.** [4 marks]

- there are different standards in existence (*i.e.* .mov, .avi)
- different standards require different software to play the video (*i.e.* quicktime, flash)
- may require a new CODEC (*i.e.* video stream encoded with specific codex)
- may be insufficient RAM (*i.e.* videos require more RAM than other web-based media)
- processor speed may be insufficient (*i.e.* videos require faster processing)
- download speed/bandwidth may be insufficient (*i.e.* low bandwidth causes “jerky” motion)
- the video may be filtered (sometimes transmission to certain locations are blocked)
- plug-in or suitable player software is missing (named example such as Flash).

Award [1 mark] for each reason identified up to a maximum of [2 marks].

Award [1 mark] for each relevant description of the reason up to a maximum of [2 marks].

(c) **Audiences for opera, ballet and plays have never been greater. The London West End theatre district has recently broken all records for attendances. Attendance at art galleries is also at record levels. Explain why this may be the result of the availability of web-based materials.** [4 marks]

Answers may include:

- easy to look up areas of interest
- links suggest things that someone might not have previously thought of
- “try before you buy” potential
- links to theatre booking services.

[1 mark]

A limited response that indicates very little understanding of the topic.

[2–3 marks]

A reasonable explanation, although the answer may lack appropriate reasoning at the bottom of the band.

[4 marks]

A clear, detailed explanation of the issue with reasons.

3. (a) **Define the term *text file*.** [2 marks]

- store of data
- consists of characters
- ASCII / Unicode
- does not contain formatting codes
- does not contain images.

Award [1 mark] for any two of the above points up to a maximum of [2 marks].

(b) **Describe how OCR can convert handwriting to a text file.** [4 marks]

- written text is scanned
- text is digitized
- text is stored as a graphic file
- library of shapes of letters stored
- size of writing determined
- software uses pattern recognition
- software scans through image left-right (up-down)
- pattern matched with stored shapes
- word/letter inserted into new text file.

Award [1 mark] for any four of the above points up to a maximum of [4 marks].

(c) **Explain why the conversion process may not be accurate using OCR techniques.** [4 marks]

Answers may include:

- handwriting varies
- joined up letters may be difficult to distinguish
- difficulty in recognizing certain handwritten shapes
- writing may be faint/difficult colour to scan
- resolution issues.

[1 mark]

A limited response that indicates very little understanding of the topic.

[2–3 marks]

A reasonable explanation, although the answer may lack appropriate reasoning at the bottom of the band.

[4 marks]

A clear, detailed explanation of the issue with reasons.

4. (a) Define the term *macro*. [2 marks]

- a procedure that can be created to perform repetitive tasks
- a set of instructions/program
- stored
- replayed when required
- provided by/part of an application.

Award [1 mark] for any two of the above points up to a maximum of [2 marks].

(b) Describe *two* benefits of using desktop publishing software instead of word processing software to produce a document. [4 marks]

Benefit

- page layout is easier to control

Comment/reason

- software is page oriented.

Benefit

- can produce more complex documents

Comment/reason

- DTP software has many graphic/page control features (*i.e.* text flow, master page).

Benefit

- better control of text

Comment/reason

- features – kerning, line spacing, font features (*i.e.* drop caps).

Benefit

- large documents easy to handle

Comment/reason

- software updates cross references.

Benefit

- produces camera ready copy

Comment/reason

- can be sent “as is” to printing company.

N.B. Reject any comments about templates or other features that word processors also have.

Award [1 mark] for each benefit identified. Award an additional [1 mark] for an appropriate comment/reason linked to the benefit up to a maximum of [2 marks]. Mark the first two correct benefits only.

- (c) **Explain why organizations are concerned that their documents should have a consistent style.** **[4 marks]**

Answers may include:

- easy recognition of organization
- conveys image of authority
- avoids looking disorganized
- avoids ambiguity
- sets standards for all employees.

[1 mark]

A limited response that indicates very little understanding of the topic.

[2–3 marks]

A reasonable explanation, although the answer may lack appropriate reasoning at the bottom of the band.

[4 marks]

A clear, detailed explanation of the issue with reasons.
