Retired Onscreen Test Version 5 Unit 2: Technology Systems

BTEC Firsts Level 1/2 Information and Creative Technology

Introduction

This retired onscreen test has been made available to centres to help you prepare your learners for their BTEC Firsts Level 1/2 external assessments.

We recommend that you use this test as a written assessment which is then either teacher marked or peer assessed.

This retired test should be used in conjunction with the Mark Scheme and the Lead Examiner's Report to clearly identify the assessment requirements. These documents are available at:

http://qualifications.pearson.com/en/qualifications/btec-firsts/information-and-creative-technology-2012-nqf.coursematerials.html#filterQuery=Pearson-UK:Category%2FExternal-assessments

Retired Test Development

We are currently working towards a simulation test where mock onscreen tests can be taken in a real environment. However as this is being developed, we have temporarily created these PowerPoint based tests to support you.

PEARSON

FAQs

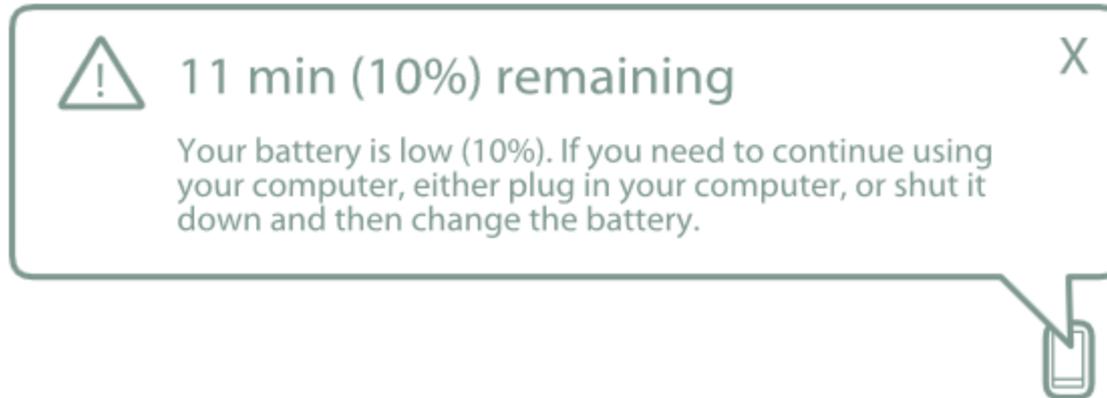## How can I view the videos in the test?

This document has been produced using screen captures of the retired onscreen test. As such, videos are not available in this document. This document should be used in conjunction with the retired onscreen test which is available on the website: http://qualifications.pearson.com/en/qualifications/btec-firsts/information-and-creative-technology-2012-nqf.coursematerials.html#filterQuery=Pearson-UK:Category%2FExternal-assessments

How can I see the drop down menus in the test?

Where a drop down menu may obscure information the learner requires to answer a question, we have instead supplied a text box containing the options from the drop down menu. To view drop down menus please use the retired onscreen test.

BTEC

Battery life is one feature of tablet computers that will affect user experience. The image shows a battery life warning message.

> ⚠ **11 min (10%) remaining**   X
>
>   Your battery is low (10%). If you need to continue using
>   your computer, either plug in your computer, or shut it
>   down and then change the battery.

Identify **one** way to prolong the battery life of a tablet computer.   (1)

Click on **one** of the boxes.

☐ Save files to compact disk   ☐ Dim the screen backlight

☐ Transmit on short range networks   ☐ Connect an external mouse

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Professional Computer Aided Design (CAD) systems are used in industry to produce plans and other design drawings.

Identify **two** features of professional CAD systems.   (2)

Click on the **two** correct features.

They enable designs to be viewed in detail

They require little processing power

They allow drawings to be rotated in 3D

They require minimal storage space

They create designs automatically

PEARSON

Heat dispersal systems are used to prevent internal components of a computer from overheating.

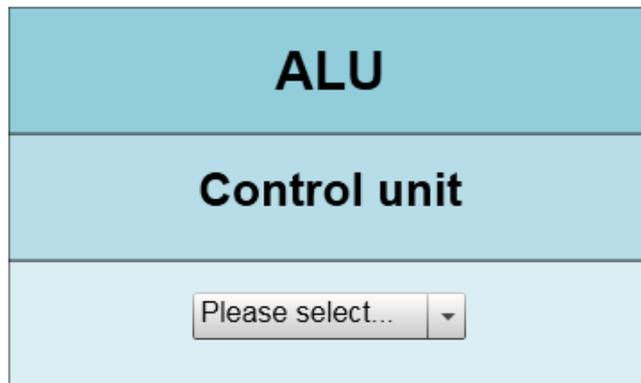Name the **two** main components of a heat dispersal system. (2)

Type your answers in the boxes.

The diagram shows the main components of a central processing unit (CPU).

(a) Label the missing component of the CPU.   (1)

Select your answer from the drop down menu.

ALU
Control unit
Please select... ▾

Please select from the following:

Storage

Registers

ROM

Clock

(b) Identify **one** function of the arithmetic and logic unit (ALU).   (1)

Click on **one** of the boxes.

☐ To process program instructions   ☐ To store program files

☐ To hold the next program instruction   ☐ To sequence program input

BTEC

Identify **two** output devices. (2)

Click on the **two** correct devices.

Keyboard

Projector

Speaker

Microphone

Mouse

PEARSON

The image shows disk defragmentation in progress.

(a) Identify the type of software being used to run the disk defragmentation. (1)

Type your answer in the box.

(b) State **one** process that takes place during disk defragmentation. (1)
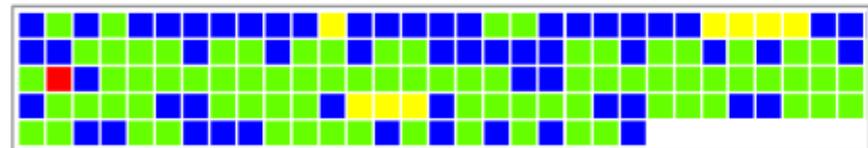
Type your answer in the box.

(c) State **one** outcome of defragmentation. (1)

Type your answer in the box.

Defragmentation is in progress...

Disk Defrag is now defragmenting files on the selected disk. This process may take a while.

Disk fragmentation map:

■ fragmented ■ defragmented ■ allocated space ■ MFT ☐ free space ■ being processed

C:\Documents and Settings\All Users\App Data\elephant.jpg

Total files:	7898
Fragmented files:	4
Defragmented files:	2
Skipped files:	2

PEARSON

Computer controlled systems automatically close external blinds when air temperatures reach a certain level. The systems are used in office buildings with large areas of glass.

(a) Name the type of input device that an external blind system will use. (1)

Type your answer in the box.

(b) Describe the role of the actuators in the external blind system. (2)

Type your answer in the box.

8-bit binary code can be used to represent whole numbers.

Match each 8-bit binary code with the whole number it represents.	(2)

Click on each 8-bit binary code and then on the correct whole number.

8-bit binary code

00100010

01000001

Whole number

16

24

34

65

73

Data capture devices are important components of computer systems.
Retailers use barcode readers to capture data from barcodes on products.

(a) Identify the data item provided by a barcode on a supermarket product. (1)

Click on **one** of the boxes.

☐ Item price

☐ Product ID

☐ Best before date

☐ Supplier name

Retailers also use radio frequency identification device (RFID) systems.

(b) Identify the task that a retailer would perform using an RFID system. (1)

Click on **one** of the boxes.

☐ Scanning advertisements

☐ Monitoring checkouts

☐ Reading PINs

☐ Tracking stock

Operating systems are upgraded regularly.
These upgrades often include security patches.

Explain **one** reason why security patches for operating systems are required.　(2)

Type your answer in the box.

Many computer networks use cables to transfer data between devices.
There are several types of network cable, each designed for specific purposes.

(a) Identify the type of network cable used to transmit high volumes of data over long distances. (1)

Type your answer in the box.

(b) Identify **two** types of copper network cabling. (2)

Type your answers in the boxes.

A media business uses a range of software applications to create online and paper-based publications.

Match each software application with the most appropriate task description.   (3)

Click on each software application and then on the correct task description.

Software application

HTML editor

Vector graphics software

DTP package

Task description

Designing a logo

Creating a video transition

Producing a magazine advert

Formatting a chart

Presenting a slideshow

Updating a web page

Editing photographs

Operating systems provide a range of accessibility features, such as speech recognition, intended to make the computer easier to use.
Speech recognition can be used to dictate text.

(a) Explain **one** other way speech recognition can improve computer accessibility for some users. (2)

Type your answer in the box.

Other accessibility features can be used to provide a modified interface for users with poor vision.

(b) Explain how **one** type of output is provided by a screen reader interface. (2)

Type your answer in the box.

A specification for a PC configured for video editing includes an 8 core, 3.1 GHz CPU with 8 MB cache and a 2 TB hard disk drive with 64 MB cache.
The hard disk cache will be used to queue commands sent to the hard disk.

Explain **one** other use of the disk cache specified.   (2)

Type your answer in the box.

Ultra light laptops use solid state disks as their main storage devices. These disks are fast and light.

Explain **two** other benefits a solid state disk would provide. (4)

Type your answer in the box.

Modern computers are devices that process and output digital data.
In some situations the output must be converted into an analogue signal before it can be used.

(a) Give **one** example when conversion from digital to analogue output is necessary.   (1)

Type your answer in the box.

(b) Explain **one** reason why binary numbers are used to represent digital data.   (2)

Type your answer in the box.

Computer memory can be random access (RAM) or read only (ROM).
The type of memory used will depend on its function.

Explain why ROM is used to store a computer's basic input output system (BIOS). (2)

Type your answer in the box.

Ferhana is an architect.
She manages the office computer systems.
She wants to install a new operating system on every office computer.

Discuss the factors Ferhana should consider before installing a new operating system. (8)

Type your answer in the box.