Write your name here

Surname		Other names

**Pearson BTEC
Level 3 Nationals
Extended Certificate**

Centre Number

Learner Registration Number

Information Technology
Unit 1: Information Technology Systems

Thursday 8 June 2017 – Afternoon
Time: 2 hours

Paper Reference
31760H

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and learner registration number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need*.

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question*.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

Pearson

1   Ohman runs a small business buying and selling sports memorabilia such as shirts, programmes and medals.

    He runs his business from a small office with the help of two members of staff.

    There are three computers in the office used for administration tasks and communication with buyers and sellers.

    The business currently has a website that is used to advertise the memorabilia.

    Ohman has decided that creating a page on a social networking site would give him additional advertising power with little initial cost.

    (a) Explain **two** features provided by a social networking site that would benefit Ohman in advertising his business.

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    (b) Explain **two** drawbacks that may arise from using a social networking site to advertise the business.

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(c) The office computers are over five years old and run an operating system that came preinstalled.

Ohman is considering upgrading to the latest available version of a proprietary operating system.

Discuss the factors that Ohman should consider before making his decision.

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(d) Ohman is aware that the office environment must comply with health and safety regulations.

Explain how Ohman can ensure he fulfils his obligations with respect to the display screen equipment element of the Health and Safety (Display Screen Equipment) Regulations 1992.

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(Total for Question 1 = 20 marks)

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2 Grangeholme College is based on a large campus with access to a local area network in all areas.

There are several dedicated computer rooms equipped with personal computers that have a wired connection to the network server.

Remote access to the network is provided via a virtual private network (VPN).

The network server is located in a dedicated server room with secure access.

The network is used by IT technicians, administrative staff, teaching staff and students.

(a) Entry to the server room is controlled by an ID card system.

The college would like to introduce a more secure access system.

It is considering installing a biometric fingerprint scanning system, rather than an ID card system.

Explain **two** advantages of introducing a biometric access system rather than an ID card system.

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(b) All users of the network are given user accounts.

User accounts are set up by the IT technicians.

Discuss how user accounts impact on different user groups of the system.

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(c) Harry is undertaking a digital photography course at the college and wants to complete and submit an assignment from home.

His assignment will include documents and photographs that are currently stored on his laptop, smartphone and digital camera.

He will submit his work using the college VPN. His tutor will download and assess the work.

Draw a diagram to show the integration of systems that could be used in this process.

The diagram should include:

- devices and systems that can be used

- devices to be connected and the connection type(s) used

- the flow of data through the system

- annotations indicating the information and data to be passed between the systems/devices.

(10)

(Total for Question 2 = 22 marks)

3 Springtop Leisure Centre provides a wide range of sports and leisure facilities for people of all ages.

Joseph is the new manager of the centre and he wants to improve the services and facilities offered.

Joseph has identified two areas that need immediate improvement:

- facilities for young adults
- class booking system.

Joseph would like to gather ideas for new facilities from young adults in the local community.

He has decided to collect the ideas using an online survey rather than holding face-to-face meetings.

(a) Discuss the implications of collecting this information online rather than via face-to-face meetings.

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(b) Joseph must ensure that the interface he creates for the online survey will meet his needs and those of the participants.

The online survey will have multiple screens.

(i) The first screen will be used to collect personal information from the participants, including:

- Title
- First name
- Last name
- Postcode
- Telephone number
- Date of birth
- Gender.

Explain **three** different error reduction methods Joseph can use when collecting this information.

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P 5 1 7 5 9 R A 0 1 1 2 0

(ii) Discuss the factors, other than error reduction, that Joseph should consider when setting up the interface.

(6)

P 5 1 7 5 9 R A 0 1 2 2 0

(c) Joseph would like to improve the leisure centre's class booking system. He wants to introduce an online system to allow members to book the classes that they want to attend.

Discuss the factors that Joseph needs to consider when creating the online system.

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(Total for Question 3 = 26 marks)

4 IDC is an interior design company based in the north of England with regional offices.

The company has a local area network (LAN) of computers with a wired connection to a server.

The server is used to store all system and user files.

Regular backups of the files are made and stored on magnetic tape.

(a) The company is considering a move to using a cloud-based storage system.

Analyse the impact of moving to a cloud-based storage system on IDC and its staff.

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(b) The majority of employees have mobile devices that are restricted to personal use, with no access to the network.

IDC is considering changing its systems to allow employees to use their personal mobile devices to access the company network whilst in the office and at other times, such as when they are with clients or travelling.

Evaluate the company's decision to allow employees access to the company network using personal mobile devices.

(12)

(Total for Question 4 = 22 marks)

TOTAL FOR PAPER = 90 MARKS

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