# Information Technology

# Unit 1: Information Technology Systems

**Instructions**

Use a **blue** coloured font to answer the questions.

You are not restricted to the space provided - use as much space as you need to answer each question.

Answer all questions.

**Information**

• The total mark for this paper is **44**.

• 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.

1. Fulmill is an inner-city suburb. Fulmill Community Group (FCG) has been set up to encourage local people to become involved in the community. FCG produces a newsletter providing local news and information. The newsletter is currently printed to be collected from local shops. FCG is considering replacing the printed copy with an online version.

(a) (i) Give **two** drawbacks for members of the community of replacing the printed copy with an online version. (2)

1.

2.

(ii) Give **two** benefits for members of the community of replacing the printed copy with an online version. (2)

1.

2.

(b) Kerry is a member of FCG. She has a BITMAP image that she wants to include in the FCG newsletter. She is going to send the image as an email attachment. FCG has asked Kerry to convert the file into JPEG format.

(i) Explain **one** benefit to FCG of converting the file from BITMAP (.bmp) format to JPEG (.jpg) format. (2)

(ii) Explain **one** drawback to FCG of converting the file from BITMAP (.bmp) format to JPEG (.jpg) format. (2)

(c) Two protocols used to control the data transmission of emails are Simple Mail Transfer Protocol (SMTP) and Internet Message Access Protocol (IMAP).

Explain the roles of SMTP and IMAP in the transmission of emails. (4)

SMTP

IMAP

(d) Kerry has antivirus software installed on her computer.

Kerry keeps the antivirus software up to date.

Describe how keeping the antivirus software up to date reduces the risks of viruses on the computer. (4)

(e) FCG is considering setting up an online community on a social media site.

Discuss how FCG can ensure that the social media site provides a positive user experience for the online community. (8)

1. Bassett’s college has a local area network (LAN) that can be accessed by students on-site and remotely.

(a) Access to the server room is restricted by a keypad entry system. A four-digit code is issued to authorised users on a weekly basis.

The college is considering changing to an ID card entry system.

Explain **two** ways in which an ID card entry system makes access to the server room more secure than a keypad entry system. (4)

1

2

(b) Students gain access to the college network with usernames and passwords.

Describe the process used by the system to authenticate passwords and allow access to the system. (4)

(c) Students often use the college network to help them work collaboratively on projects.

Explain **two** features of the college network that students can use to work collaboratively.

(4)

1

2

(d) Many students use personal laptops to access the college network. This can have implications for the security of data stored on the network.

Discuss systems and procedures that the college and students could use to keep data on the network secure, when students access the network using their personal laptops. (8)

**TOTAL FOR PAPER = 44 MARKS**