

SAMPLE ASSESSMENT MATERIAL

Level 1/2 Cambridge National Certificate in Information Technologies

R012/01 - Understanding tools, techniques, methods and processes for technological solutions

Date – Morning/Afternoon

Time Allowed: 1 hour 45 minutes



First Name		Last Name	
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Centre Number						Candidate Number				
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Date of Birth									
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INSTRUCTIONS

- Use black ink.
- Complete the boxes above with your name, centre number and candidate number.
- Answer **all** the questions.
- Write your answer to each question in the space provided. If additional space is required, use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the bar codes.

INFORMATION

- The total mark for this paper is **80**.
- The marks for each question are shown in brackets [].
- This document consists of **16** pages.

Version 1 August 2017

Key changes to the version published as draft. The questions have been renumbered and key changes are indicated by black lines.

Answer **all** the questions

1 You are checking your data for accuracy.

What phase of the project life cycle is this?

[1]

2 You have been given a target of four weeks to complete a project.

What aspect of SMART is this?

[1]

3 The image below in **Fig 1** represents components from a PERT chart.

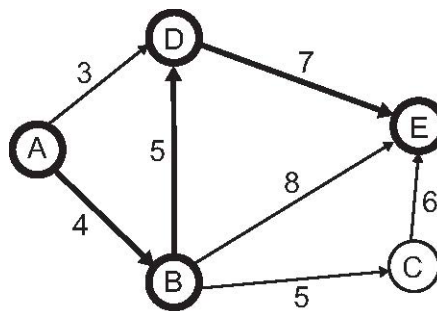


Fig 1

a) What are components A and B called?

[1]

b) What is the purpose of the directional arrow from A to B?

[1]

- 4 What are the data types used in columns **C** and **D** in table 1?

A	B	C	D
PD123	John Jones	23/10/2017	Y
PD428	Simon Brown	01/11/2017	N
PD758	Gail Mason	14/09/2017	Y

Table 1

C _____

D _____

[2]

- 5 A hotel collects feedback from guests about their stay.

Describe **one** IT method that could be used to collect this feedback.

[2]

- 6 What is the correct terminology for a group of infected computers controlled by a person to commit cyber-crime?

[1]

- 7 A charity wants to present the totals raised from fund raising events over a year.

What is the most appropriate type of graph for presenting this information?

[1]

Turn over

A project team has to collect data about people’s use of a local bus route. The data has to be collected when people are using the bus.

The data will be used to decide if the buses are big enough, if the route is only used at certain times of the day or if the route needs more buses.

The collected and processed data will be given, as an integrated document, to an audience. The audience for the integrated document will include people who use the bus route, the transport department who provide the money to run the bus route and the company who provides the buses and drivers.

The collected data and processed results will be presented by a member of the project team at a community meeting with the data also being available online.

8 The objectives for this project will need to be set by the project team.

Explain how setting correct objectives can help ensure the final product meets the project requirements.

[4]

9 The project team will use a tablet to collect the required data in a questionnaire.

Describe **one** disadvantage of using a tablet to collect this data.

[2]

10 Another way of collecting data is through the use of a sensor.

Explain **two** advantages of using a sensor to collect the data when people use a bus route.

Advantage 1 _____

Advantage 2 _____

[4]

11 The results from processing the data will be delivered by the project team at a community meeting where Internet access is not available.

(a) Which type of software application would be selected to communicate this information?

[1]

(b) Justify your choice of software application.

[4]

12 The integrated document will be made available to people who cannot attend the meeting.

Describe **one** distribution channel that could be used to share the integrated document?

[2]

13 The data and processed results will be stored online.

Identify and describe **one** threat to this data when it is stored online.

[3]

Turn over

An online retailer sells pet accessories. The retailer has a loyalty scheme where customers can collect points based on the cost of each purchase they make. Every three months the points are converted to a money off voucher to be used for the next order.

When a customer places an order on the website the items are moved into a shopping cart. When the customer has finished selecting the items they wish to purchase, they are required to enter the delivery details e.g. date and location for delivery, their loyalty scheme reference number and their payment details.

The order is processed by the online retailer's computer system and a confirmation email is sent to the customer. The system also updates the information in the customer database with the number of points the customer has earned from their purchase.

14 The collected data needs to be stored using a loyalty scheme reference before it is processed. An example of a loyalty scheme reference for a customer is MKN6394294.

(a) Identify the data type you would select to store this information.

[1]

When customers have placed orders the loyalty scheme points are collected and added to the customer database.

(b) Identify the processes which occur when the system updates the customer database after an order has been made.

[4]

15 The company uses email to inform customers about special offers.

(a) Describe **one** advantage to the company of using email to provide information about special offers.

[2]

(b) (i) Identify **one other** IT method that the company could use to tell customers about special offers.

[1]

(ii) Why did you select this IT method?

[2]

Turn over

16 The customer database stores details about the customers, including their names and addresses.

(a) Identify **one** legislative requirement which relates to the storage of customer data.

[1]

(b) Describe **two** security measures that would need to be put in place when securing customer data.

1. _____

2. _____

[4]

17 The retailers website has been flooded by malicious requests from all over the world.

(a) Identify the type of attack that has taken place.

[1]

(b) Describe the system vulnerabilities that may have allowed this attack to succeed.

[4]

Turn over

19 During the planning phase, the software development company identified they needed further details about the contents of the individual reports from the sports centre staff.

At what phase of the project life cycle should they have received this information?

[1]

21 The swimmers' data is stored in a database. The swimmers will be provided with monthly reports.

(a) Explain **one** advantage of using a database to create these reports for the swimmers.

[2]

(b) Identify **one** other method for providing the swimmers with this information.

[1]

22 The sport centre wants to use the information to help promote the benefits of swimming as part of a Keep Fit Week. Any information used must comply with current legislation.

Explain what data the sports centre would be permitted to use and how they could present it.

[4]

Turn over

- 23 During the evaluation phase, recommendations are made about possible improvements in the way that the swimmers' data is captured.

One recommendation is that the data is captured using wearable technology.

Explain **one** advantage and **one** disadvantage to the swimmers of using wearable technology.

Advantage _____

Disadvantage _____

[4]

END OF QUESTION PAPER



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