



Oxford Cambridge and RSA

Friday 10 January 2020 – Afternoon

**Level 1/2 Cambridge National Certificate in
Information Technologies**

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

Time allowed: 1 hour 45 minutes

No extra materials are needed.



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

Last name

INSTRUCTIONS

- Use black ink.
- Write your answer to each question in the space provided. You can use extra paper if you need to, but you must clearly show your candidate number, the centre number and the question numbers.
- Answer **all** the questions.

INFORMATION

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

ADVICE

- Read each question carefully before you start your answer.

Answer **all** the questions.

SECTION A

- 1 Identify the **correct order** for the phases of a project life cycle.

Circle **one** of **A, B, C or D**.

A Planning Evaluation Initiation Execution

B Planning Execution Initiation Evaluation

C Initiation Planning Execution Evaluation

D Initiation Planning Evaluation Execution

[1]

- 2 A pivot chart is used to visually represent data.

Is this statement **true** or **false**?

..... [1]

- 3 Identify **two** advantages of using **consumer panels** as a method for collecting data.

Advantage 1:

.....

Advantage 2:

.....

[2]

- 4 Identify the legislation that relates to the **misuse of personal data**.

..... [1]

- 5 Identify **two** outputs from the **execution phase** of a project life cycle.

Output 1:

Output 2:

[2]

- 6 Complete the following sentence by circling **one** of **A, B, C or D**.

Unauthorised access to systems with malicious intent to steal, exploit and sell data is called...

- A phishing.
- B ransomware.
- C grey hat hacking.
- D black hat hacking.

[1]

- 7 Progress X is an IT company that uses social media to promote its services.

Identify **two** benefits **to Progress X** of using **social media** to promote its services.

Benefit 1:

.....

Benefit 2:

.....

[2]

SECTION B

Read the scenario below. Questions 8–11 relate to this scenario.

Progress Gaming Zone (PGZ) is a business where gamers can purchase time to use specialist computers with high-speed internet connections. Gamers can then play a range of online multiplayer games.

Gamers will be given a unique username and password to access the specialist computers.

PGZ will collect data about the amount of time gamers spend online.

The PGZ Network Manager has been given a project to develop a system that will be used to record and monitor online usage. The new system will automatically create invoices for gamers who use the specialist computers.

Head Office has requested a monthly report on the trends in online usage by gamers and the generated income.

8 The PGZ Network Manager will set SMART targets for the project.

(a) State what the 'S' in SMART stands for.

..... [1]

(b) State what the 'A' in SMART stands for.

..... [1]

(c) Identify **two** SMART targets that could be set for this project.

Target 1:

Target 2:

[2]

(d) The PGZ Network Manager will carry out a **phase review** at the end of the initiation stage.

Is this statement **true** or **false**?

..... [1]

- 9 Identify **one** storage method that PGZ could use to store data about the amount of time gamers spend online.

Justify the storage method you have chosen.

Method:

Justification:

.....

.....

..... [3]

- 10 Gamers will be given a username and password to access the specialist computers.

Describe how usernames and passwords could **reduce** the vulnerability of the specialist computers.

.....

.....

.....

..... [2]

- 11 The PGZ Network Manager is preparing the monthly report on online use and income generation for Head Office. He will create an integrated document for this purpose.

Discuss the advantages and disadvantages of using an **integrated document** for this purpose.

[10]

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SECTION C

Read the scenario below. Questions 12–15 relate to this scenario.

Pro-Taxis (PT) is a taxi firm which is used to pick up customers and take them to their destination. Customers will phone PT to make a booking for a taxi. This data is currently recorded on a paper schedule plan.

The IT Manager at PT has started a project to digitally collect, store and sort data about its customers and their bookings.

PT is also looking into using mobile technology by developing a mobile app that customers can use to book a taxi rather than phoning PT direct.

To register to use the mobile app, customers will have to enter their phone number and their name and address.

- 12** PT has decided to use a database software application to store customer details. This will allow PT to query customer information and produce reports.

(a) Identify **three** data types that would be used in the database software application.

Data Type 1:

Data Type 2:

Data Type 3: **[3]**

(b) Explain **two** reasons why a database software application would be **more** appropriate than a spreadsheet software application for storing customer details.

1:

.....

.....

.....

2:

.....

.....

..... **[4]**

- (c) Identify and describe **two** drawbacks **to PT** if inaccurate data is entered into the database software application.

Drawback 1:

.....

Description:

.....

Drawback 2:

.....

Description:

.....

[4]

- 13 Identify **two** success criteria that **PT** would need to consider when reviewing the **effectiveness** of the mobile app that customers use to book a taxi.

Success Criteria 1:

.....

Success Criteria 2:

.....

[2]

- 14** The IT Manager needs to test the mobile app.

Identify the **two** phases of the project life cycle which include the **test results**.

Phase:

Phase:

[2]

- 15** Testing of the mobile app was successful. The mobile app can now be used by customers.

A customer is using the mobile app over a public wireless network when PT's server is hacked.

- (a)** Identify and describe **one** possible consequence **to the customer** of this cyber-security attack.

Consequence:

.....

Description:

.....

.....

..... [3]

- (b)** Identify **one** action customers could take, other than **not** using a public wireless network, to **reduce** the risk of a cyber-security attack on their mobile device.

Justify your answer.

Action:

.....

Justification:

.....

.....

..... [3]

SECTION D

Read the scenario below. Questions 16–18 relate to this scenario.

Progress Utility (PU) supplies electricity to over two million customers. PU estimates how much electricity it needs. If it underestimates, there will not be enough electricity for its customers.

A decision has been made that PU will launch a project to install SmartMeters (physical display units) in its customers' homes to collect hourly meter readings. The data from the SmartMeters will be automatically sent back to PU. The data will be processed allowing PU to:

- make more accurate estimates as to the amount of electricity it needs;
- provide its customers with accurate utility bills.

PU will follow the project life cycle at all times.

16 One input for the planning phase in the project life cycle will be the feasibility report.

Identify and explain **two** benefits **to PU** of using a **feasibility report** for this project.

Benefit 1:

.....

Explanation:

.....

Benefit 2:

.....

Explanation:

.....

[4]

17 Identify **one** software type that PU could use to schedule the work of individual project team members.

Justify the software type you have chosen for this purpose.

Software Type:

Justification:

.....

.....

..... **[3]**

- 18 (a) The data from the SmartMeters is sent to PU.

Describe how this **data becomes information**.

.....

.....

.....

..... [2]

- (b) The SmartMeters will increase the reliability of the collected data.

Describe what is meant by the term **reliability**.

.....

.....

.....

..... [2]

- (c) Identify **two** considerations PU must take into account when **holding customer data**.

Consideration 1:

.....

Consideration 2:

.....

[2]

SECTION E

Read the scenario below. Questions 19–20 relate to this scenario.

The PU Board of Directors has asked for a monthly report comparing the electricity generated by PU with the electricity usage of its customers.

The Board has also asked that online surveys are used to gather feedback from customers on the use of SmartMeters.

- 19** The monthly report includes statistical information. The statistical information will be presented using dynamic charts.

Explain **one** advantage **to PU** of using **dynamic charts** to present this statistical information.

.....

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..... [3]

- 20 (a)** Identify and explain **two** advantages **to PU** of using **online surveys** to gather feedback from its existing customers.

Advantage 1:

.....

Explanation:

.....

Advantage 2:

.....

Explanation:

.....

[4]

- (b)** Other than online surveys, identify **one other** method PU could use to gather feedback from its existing customers.

..... [1]

END OF QUESTION PAPER

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