

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**

**LEVEL 1/2**

**R012/01**

**CAMBRIDGE NATIONAL CERTIFICATE  
IN INFORMATION TECHNOLOGIES**

**Understanding tools, techniques,  
methods, and processes for  
technological problems**

**WEDNESDAY 9 JANUARY 2019: Afternoon**

**DURATION: 1 hour 45 minutes  
plus your additional time allowance**

**MODIFIED ENLARGED**

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| <b>First<br/>name</b> |  | <b>Last<br/>name</b> |  |
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| <b>Centre<br/>number</b> |  |  |  |  |  | <b>Candidate<br/>number</b> |  |  |  |  |
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**No additional materials required for this Question Paper.**

**READ INSTRUCTIONS OVERLEAF**



## **INSTRUCTIONS**

**Use black ink.**

**Complete the boxes on the front page with your name, centre number and candidate number.**

**Answer ALL the questions.**

**Write your answer to each question in the space provided.**

**Additional paper may be used if required but you must clearly show your candidate number, centre number and question number(s).**

## **INFORMATION**

**The total mark for this paper is 80.**

**The marks for each question are shown in brackets [ ].**

**Answer ALL the questions.**

## **SECTION A**

**1 What is the first phase of the project life cycle?**

\_\_\_\_\_ [1]

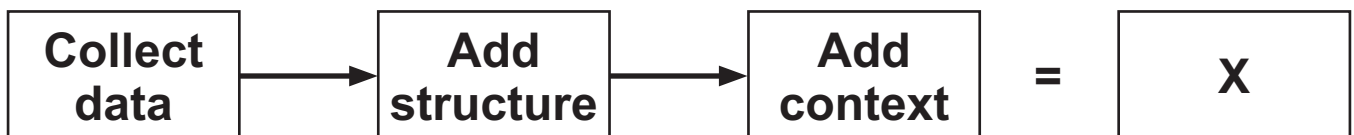
**2 A client needs to have a deliverable product by the end of March.**

**What type of constraint is this?**

\_\_\_\_\_ [1]

**3 FIG. 1 shows what happens to data collected from a survey.**

**FIG. 1**



**What is X?**

\_\_\_\_\_ [1]

- 4 Identify and describe ONE use of wearable technology in the healthcare sector.**

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[2]

- 5 A hacker has maliciously stolen data from you.**

**What type of 'hat' hacking is this?**

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[1]

- 6 The computer system in a business has been attacked and sales figures have been changed.**

**What type of cyber security attack is this?**

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[1]

**7 What is meant by the term 'secure backup of data'?**

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[2]

**8 A magnetic wipe is one method used to securely destroy data on a hard drive.**

**Identify ONE OTHER secure destruction method that could be used.**

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[1]

## **SECTION B**

**Read the scenario below. Questions 9–13 relate to this scenario.**

**A sports clothing brand, Westwood Sportswear (WS), has set up a project team to introduce new information technologies to its clothing range and shops by the end of the year.**

**The project team has presented the following ideas:**

**QR codes to be placed on all sewn-in clothing labels. The QR codes will give customers access to data about each item of clothing by reading the QR code on their smartphone. This will be data such as sizing information, colour range and materials used.**

**QR workstations to be set up in every shop. Staff will use these workstations to scan and read QR codes for customers without a smartphone.**

**WS mobile app to be developed to send electronic discount vouchers to customers when they visit a shop. Customers will need to enter personal details to access the mobile app.**

**It has been agreed that the project team will take these ideas forward and implement them.**

- 9 The project team will use different planning tools, including a PERT chart, which shows the critical path.**

**(a) Describe the purpose of a critical path.**

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[3]

**(b) Identify THREE components of a PERT chart.**

1 

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[3]

**(c) Explain ONE disadvantage TO THE PROJECT TEAM of using a PERT chart.**

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[2]

**10 QR codes will be placed on all sewn-in clothing labels.**

**(a) Explain ONE disadvantage TO THE STORE of having QR codes on all clothing labels.**

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[2]

**(b) Explain ONE disadvantage TO CUSTOMERS of having QR codes on all clothing labels.**

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[2]



**11 Staff will use the QR workstations to scan and read QR codes.**

**(a) Identify and describe ONE piece of legislation that relates to the SOFTWARE installed on the QR workstations.**

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**[3]**

**(b) Identify and describe ONE piece of legislation that relates to the DATA stored on the QR workstations.**

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**[3]**

**12 Customers will need to enter personal details to access the mobile app.**

**Explain TWO ways current IT legislation prevents the moral and ethical misuse of this information.**

**1** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**[4]**

**13 Identify TWO outputs of the execution phase of this project.**

**1** \_\_\_\_\_

**2** \_\_\_\_\_

**[2]**

## SECTION C

Read the scenario below. Questions 14–16 relate to this scenario.

A large take-away pizza company, Progress Pizzas (PP), has over 100 branches across the UK. Each branch prepares, bakes and delivers pizza orders to customers.

Customers can use the PP mobile app to view the menu, place their order and receive delivery time updates.

Delivery drivers use cars and motorbikes to deliver the pizzas to customers. PP collects data about each driver's driving by using sensors on the vehicles. This data is shared with the motor insurance company and helps reduce insurance costs.

Data from each branch is collected monthly and sent to Head Office. This data must include the number of orders, average cost of orders, the average delivery time and other statistical information.

- 14 Customers can use the PP mobile app to view the menu, place their order and receive delivery time updates.

Discuss the advantages TO PP of using the mobile app to share information with customers. [8]

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[illegible]

**15 Describe ONE way that sensors could be used to collect data on the quality of each driver's driving.**

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**[2]**

**16 The Data Manager at Head Office is responsible for combining all of the data received from each branch. This data is then shared with senior managers as a presentation at their monthly meeting.**

**(a) Identify ONE piece of hardware that could be used to share the presentation with the senior managers.**

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**[1]**

- (b) Identify ONE suitable type of software that could be used by the Data Manager to combine the monthly data for use in the presentation to the senior managers. Justify your response.

Type of software \_\_\_\_\_

Justification \_\_\_\_\_

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[5]

## **SECTION D**

**Read the scenario below. Questions 17–19 relate to this scenario.**

**Progress Westwood Data (PWD) is a data collection and storage company. It provides support for the education sector in the UK.**

**Many schools use PWD to gather useful market research information for them to use.**

**PWD uses online surveys to obtain feedback from staff and pupils about:**

**the quality of canteen food;**

**school transport.**

**PWD also collects small data sets from individual schools covering exam performance, attendance, pupil numbers on roll, etc. It combines these small data sets into bigger data sets that can be shared with the Government Department for Education.**

**17 PWD is a data collection and storage company.**

**Define what is meant by the term ‘data’.**

\_\_\_\_\_ **[1]**

**18 PWD collects data for schools using a variety of methods including online surveys.**

**(a) Identify ONE OTHER data collection method PWD could use when carrying out market research.**

\_\_\_\_\_ **[1]**

**(b) Explain ONE reason why validity is important when PWD collects data for schools.**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ **[2]**



**Discuss the benefits and drawbacks of using data sets to generate these national statistics. [10]**

[illegible]

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Read the scenario below. Questions 20–21 relate to this scenario.

**Progress Westwood Data (PWD) handles a lot of sensitive personal and business data for its customers. It wants to check that it is following current IT legislation and that its cyber security prevention measures are up-to-date.**

**The IT Manager is responsible for cyber security and he is leading a project to review these areas.**

**20 The IT Manager will use a Gantt chart for planning this project rather than a task list.**

**(a) Evaluate this decision. [6]**

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**PWD uses a variety of logical prevention measures to reduce cyber security risks.**

**(b) Describe what is meant by a logical prevention measure.**

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[2]

- (c) At the end of the project, the IT Manager produces a word-processed report on how well PWD is following current IT legislation.

The report contains tables showing the results of the research carried out by the project team.

Identify and explain ONE advantage and ONE disadvantage of using tables to present information in this report.

Advantage: \_\_\_\_\_

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Disadvantage: \_\_\_\_\_

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[6]

**21 PWD wants all of its employees to act in an ethical and moral way when handling data. The IT Manager has been asked to design a poster showing employees how to handle data in an ethical and moral way.**

**(i) Suggest ONE instruction that could be placed on this poster.**

\_\_\_\_\_ **[1]**

**(ii) Identify ONE demographic factor that should be considered when designing this poster.**

\_\_\_\_\_ **[1]**

**END OF QUESTION PAPER**

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