CAMBRIDGE NATIONALS

Examiners' report

INFORMATION TECHNOLOGIES

J808

R012 Summer 2018 series

Version 1

Contents

Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates. The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report. A full copy of the question paper can be downloaded from OCR.

Paper R012 series overview

This was the first time this exam was sat by candidates. Overall, candidates seemed fairly well prepared, although understanding of the more technical aspects of the course was limited.

Key:

AfL   Guidance to offer for future teaching and learning practice.

Question 1

1   You are working on a project and need to set milestones.

    In which phase of the project life cycle would this task be carried out?

    .... **[1]**

A good number of candidates were able to identify the initiation or planning stage as the phase at which this would take place.

Question 2

2   **Fig. 1** below shows part of a Gantt chart.

A	Start date	Duration	1	2	3	4	5	6	7
Produce the deliverable product	12-Apr	3							
Carry out testing	14-Apr	4							

Fig. 1

What does **Column A** represent?

    .... **[1]**

The preferred answer here was "tasks", although "milestones" and even "what needs to be done at each stage" were acceptable. Some candidates incorrectly identified "text" or "deliverables", the first of which was clearly wrong and the second was too vague.

Question 3

3   Identify **one** software type that could be used to create a visualisation diagram.

.... **[1]**

There was some confusion here about what is meant by the term "visualisation diagram", and consequently an apparently random list of software titles was suggested.

Visualisation diagram
A planning tool that provides a graphical representation of how the author of the diagram envisages a product to look once completed

As a visualisation diagram is fundamentally a diagram, only software that includes drawing tools was accepted.
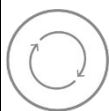
Question 5

5   Pharming is **one** type of threat that exists when collecting data online.

What is meant by the term pharming?

....

....

....

.... **[2]**

This question was effectively credited in two stages. Firstly, if candidates were aware that this led to data being stolen, one mark was given. If the candidate then extended the answer to show awareness of how this occurred, a second mark was given. (This sequence of answers could also be reversed).

Candidates should be encouraged to attempt every answer. Whilst candidates may not have been absolutely clear about the term, they could still easily have achieved one mark for a partial understanding.

Question 6

6   You are releasing a deliverable product to a client.

During which phase of the project life cycle does this task take place?

.... **[1]**

Answers were split between the evaluation phase (correct) and the execution phase (incorrect).

Execution versus evaluation

The project life cycle structures the stages through which a project goes to create a successful project. Only once a project has been completed is it passed to the user. Therefore, the release of the product must occur during the final stage of the cycle.

Question 7

7   A retailer shares information about new products with its store managers using Voice over Internet Protocol (VoIP).

Describe **one** advantage **to the retailer** of using VoIP to share this information.

....

....

....

.... **[2]**

This question was not well answered. A fair proportion of candidates did not know what the term VoIP meant and so made no attempt at the question. Other candidates clearly knew what the term meant, but gave vague advantages, which were often virtually irrelevant.

Exemplar 1 shows a good answer by a candidate. This is clearly a description of an advantage.
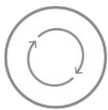
Where candidates are asked to consider why a certain method or technology has been used, candidates should consider why the method or technology being considered is more effective or useful than an alternative method.

Exemplar 1

You don't have to travel somewhere to meet this person face to ✔ face because you can do it online which is quicker and easi ✔

Question 8 (a)

A project team has been set up to organise the installation of a cashless payment system in the school canteen over the summer holiday. The new payment system must be ready for the first day of term. The school has a total budget of £20 000 to set up the new system.

There will be two checkouts, each with a barcode scanner. A fingerprint reader will be used to identify each student at the checkouts. When a student wants to buy a meal, they will take the items to the checkout, sign in with their fingerprint and scan the food item barcodes.

The total cost will be calculated and displayed on a touch screen. The student will then confirm the purchase by touching the OK button. The student can also cancel their purchase if the meal costs too much. The system will generate a total bill at the end of each week. This is sent to each student's home by email.

8   (a)   Identify **one** input into the initiation phase for this project.

.... **[1]**

This question assessed candidates' understanding of the input into different phases of the project life cycle and expected candidates to have knowledge of the inputs shown within the specifications for this qualification.

This proved to be a challenge to many candidates, many of whom appeared to confuse the inputs and outputs.

Question 8 (b)

     (b)   Identify **one** output from the planning phase for this project.

.... **[1]**

This question assessed candidates' understanding of the output from different phases of the project life cycle and, similarly to Q8a required knowledge of the table given in the specifications.

As with the previous question, candidates had some confusion between the inputs and the outputs, but also chose to give further answers that were too vague.
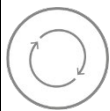
Learners should be taught the inputs and outputs of each stage of the Project Life Cycle and be encouraged to keep their answers to these specific inputs and outputs rather than search for examples which are unlikely to be correct.

Question 10

10   The team will follow the project life cycle to complete this project.

Discuss the advantages **to the school** of the project being completed using the project life cycle.

....

....

....

.... **[8]**

This question was marked a Level of Response question. For such questions, the marks awarded are not necessarily a result of the length of the answer.

Exemplar 2: In this example, the candidate has not used the whole space allocated, but has still written a good answer that is clearly of L3 standard. The candidate follows a pattern of identifying a benefit, expanding on it so that its meaning is clearly and then stating why it is a benefit. This is good examination practice and is an excellent example of an "explain" type answer.

Exemplar 2

> The project life cycle will ensure the project is completed on time which to them is before the first day back, it also means they will have a structured approach to the new project and therefore dont need to worry about going over budget as all the cost will be efficiently planned during the planning phase. This mean no extra money is lost during the creation of this product which is beneficial to a school.
>
> Not only this, but all the user requirements/constraints that were identified during the initiation phase will have be considered and the project will therefore follow theses guidelines that the school has put in place to ensure the project meets the schools exact idea, then no mistakes will be made which all are advantages and will benefit the school

L3

Question 11 (b)

(b) For **one** of the constraints you chose in **part (a)**, describe **one** step that could be taken to mitigate this.

Chosen constraint ....

Description ....

....

....

.... **[2]**

This question was not linked to the previous question, in that it was marked independently of the previous one. However, because it asked candidates to review one of the constraints from question 11a, candidates were limited.

This shows the need for candidates to have a sound knowledge of fundamental concepts as well as linked implications – all of which are included in the specifications.

Where candidates discussed a suitable constraint, their work was generally good. However, candidates should be aware that some constraints cannot simply be "wished away". For example, whilst "time" clearly is a constraint, within the context of the question, any answer that suggested that this constraint could be mitigated by extending the deadline, for example, were not accepted.
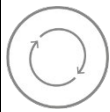
Candidates need to be given practice in answering questions within a context. However, it is unlikely that answers such as "get more time" are going to be acceptable in any other than the minority of cases.

Question 12

An athletics club, Progress Harriers, organises a monthly competition. The competition includes a variety of sporting events.

The results of the competition are posted on the club website and sent to all competitors as an email attachment.

Progress Harriers uses a database to store and process data such as event results, club event records and the contact details of each competitor. The database is stored on a laptop. The database is protected by a password.

At the start of each monthly competition, the laptop is used by club officials to record the names of the competitors in a database table.

During each competition, a desk is set up at the side of the events field where the competition is being held. The results of each sporting event are brought by club officials to the desk. This data on the position and time for each competitor is input into the database using the laptop.

12 Progress Harriers is concerned about the use of social engineering by cyber-criminals.

Question 13 (a)

13 (a) Identify **one** physical prevention measure and **two** logical prevention measures that Progress Harriers can take to protect its data.

Physical ....

Logical 1 ....

Logical 2 ....

[3]

Candidates had a good understanding of the difference between physical and logical measures.

Question 13 (b)

(b) For **one** of the logical prevention measures you chose in **part (a)**, describe how it would protect the data.

Chosen logical prevention measure ....

Description ....

....

....

.... [2]

This question specifically directed candidates towards logical prevention measures. Despite this, many candidates, who clearly understood the difference between logical and physical measures, described physical measures.

Exemplar 3: It is worth noting that this asked candidates to describe how the measure protects the data. In this example, the candidate has stated that anti-virus software looks for viruses and then removes them. This is a perfectly sound description of how anti-virus software works, for two marks.

Exemplar 3

Chosen logical prevention measure .....Updated   anti-virus software.

Description ..... It would protect the data   by looking ......
...for possible viruses, and removing them.
....This will Make sure viruses   on the ...
...Computer System by removed before ...... [2]
.....they can ~~start~~ the data.
                  access

Question 14 (a)

14   Progress Harriers uses a database to process data about the competition results.

(a)   Describe **one** feature of a database that could help Progress Harriers enter data into its database.

....

....

....

.... **[2]**

Question 14 (b)

(b)   Describe **one** feature of a database that could help Progress Harriers generate useful information from its database.

....

....

....

.... **[2]**

Question 14 (c)

(c)   Explain **two** reasons why Progress Harriers would use a database rather than a spreadsheet to record event results, club event records and the contact details of each competitor.

1 ....

....

....

....

....

....

2 ....

....

....

....

....

....

[6]

The whole of question 14 was not well answered. Where candidates understood the features of databases and spreadsheets, they were perfectly able to give good answer across all three questions. However, such candidates were few and far between.

Clearly, some work had been done on databases, but candidates' understanding was most definitely weak in this area. Candidates confused the use of queries, and suggested that these aided data entry. Other candidates relied on answer such as "databases are easier to understand" for question 14c. Such matters of opinion are highly unlikely to be awarded marks.

Question 15 (a)

15   When a club record is broken at a competition, a 'Club Record Certificate' is produced. The competitor name, event name and date from the database are merged into a Desk Top Publishing (DTP) certificate template.

   (a)   What presentation method is this?

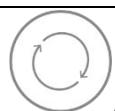   .... **[1]**

The correct answer here was "integrated document". Hardly any candidates provided this answer.

Question 15 (b)

   (b)   Explain **two** advantages for Progress Harriers of using this method to create certificates.

         1 ....

         ....

         ....

         ....

         2 ....

         ....

         ....

         ....
                                                                                                                  [4]

Advantages must be positive outcomes for the identified agent. Where candidates identify positive outcomes for a 3rd party, they are unlikely to gain marks. The advantages given by candidates will be assessed for relevance

Exemplar 4: In this example, the candidate is suggesting features of DTP software as advantages. Whilst DTP is the software on which the certificate is produced, the method is mail-merge. Therefore, the majority of answers dealing just with the software are not acceptable.

Exemplar 4

1. One advantage is that it has a variety of componunts that can change and bolden the text, to make it standout. for example, WordArt ~~or~~ ~~large~~ and changing the form ✗

2. Another advantage is that you can use images to paste into ~~the~~ the certificate template, by using clip art. This is useful because there is thousands of different images that can be used to make ~~to~~ the certificate ~~and~~ ~~more~~ ~~more~~ Stand out more. ✗ [4]

Question 16 (a) (ii)

The data from each completed questionnaire is automatically sent to the charity's head office.

(ii) Identify a suitable connectivity requirement for the hardware device you chose in **part (a)(i)**.

.... [1]

"Identify" type questions are usually looking for one word, or short answers. In this case, many candidates were able to identify a connectivity requirement. However, some stated "internet", for which there was no mark.

Question 16 (b)

(b) Explain **one** implication **to the charity** of having bias in the questionnaire.

....

....

....

....

....

.... [3]

Exemplar 5: In the example below, the candidate's main theme is that this represents a waste of money. The first point of the answer is that biased data is unreliable, which then leads onto the statement that the data cannot be used and finally, this is all used to support the main point about bias being a waste of money.

This is a well-structured answer. The issue is clearly an implication to the charity, and the points in support of the main flow of the question, are well made

Exemplar 5

If the information is bias it instantly becomes unreliable and unuseful data therefore the information that you collected cannot be used and its a waste of time and money .... **[3]**

Question 17 (a)

17 The charity has a database containing the details of its donors.

(a) Identify **two** data types that could be used to store this information.

1 ....

2 ....

[2]

The majority of candidates were able to identify at least one data type. However, candidates need to be wary of using coding data types, rather than database date types.

Question 17 (b)

(b) For **one** of the data types you chose in **part (a)**, justify your choice.

Chosen data type ....

Justification ....

....

....

.... **[2]**

Exemplar 6: As can be seen, the first mark was for identifying a reason for the data type. Had this candidate simply stated that date/time stored dates in an acceptable format, or equivalent, a second mark would have been credited. The candidate has shown, however, a good understanding of examination practice by attempting to explain the point they have made.

Exemplar 6

Chosen data type ...date/time...

Justification ...used to contain their birthday, ✔

therefore they know their age and can

be used to see when they first started

donating/key dates, etc .... [2]

Question 18

18   The charity collects data about its 500 000 donors.

Discuss the different ways in which the charity could use this data.

....

....

....

.... [10]

This question focusses on how a charity could use data. The question is not about how data is stored and so, those candidates who chose to write about how databases and spreadsheets could be used did not score highly, if at all. Some candidates also chose to write about how the charity could use this data if they were involved in criminal activity. Such answers were not awarded.

However, other candidates wrote flowing answers that showed a real understanding.

Exemplar 7: This selection from the work of one candidate shows an example of a good discussion. The candidate is fully aware that the data holds information that may be extracted through further interrogation and describes ways in which this data, once extracted, could be used.

Exemplar 7

The data could be used to make the charity and their work appeal to different demographics. For example, a certain age group may be the not a majority of the donners so the charity would either aim their advertising towards that age group or they would work on methods of attracting other age groups to the charity. The data could also

Question 21

21 The charity collects data on the use of solar panels by its donors with their permission. A Green energy supplier has asked the charity to share this data with them.

Explain **two** reasons why the charity should say 'No' to this request.

1 ....

....

....

....

....

....

2 ....

....

....

....

....

[6]

The range of suggested answers for this question was quite staggering, whilst the inventiveness was even more so. However, when the question is considered in the cold light of day, the answers are all to do with the legal and ethical implications. Answers that suggested the Green Energy suppliers were scammers or misrepresenting their true identity, implied that if the Green Energy suppliers were reliable, data could be given. This is clearly not the case.

Many candidates were able to identify that the Data Protection Act would be broken if this request was complied with, but few also considered the ethical implications. Therefore, marks were quite restricted on this question.

Copyright acknowledgements

Any reference to existing companies or organisations is entirely coincidental and is not intended as a depiction of those companies or organisations.

Supporting you

Supporting you

For further details of this qualification please visit the subject webpage.

Review of results

If any of your students' results are not as expected, you may wish to consider one of our review of results services. For full information about the options available visit the OCR website. If university places are at stake you may wish to consider priority service 2 reviews of marking which have an earlier deadline to ensure your reviews are processed in time for university applications.

activeresults

Active Results offers a unique perspective on results data and greater opportunities to understand students' performance.

It allows you to:

- Review reports on the **performance of individual candidates**, cohorts of students and whole centres

- **Analyse results** at question and/or topic level

- **Compare your centre** with OCR national averages or similar OCR centres.

- Identify areas of the curriculum where students excel or struggle and help **pinpoint strengths and weaknesses** of students and teaching departments.

http://www.ocr.org.uk/administration/support-and-tools/active-results/

CPD Hub
Your route to OCR's teacher training

Attend one of our popular CPD courses to hear exam feedback directly from a senior assessor or drop in to an online Q&A session.

https://www.cpdhub.ocr.org.uk

The small print

We'd like to know your view on the resources we produce. By clicking on the 'Like' or 'Dislike' button you can help us to ensure that our resources work for you. When the email template pops up please add additional comments if you wish and then just click 'Send'. Thank you.

Whether you already offer OCR qualifications, are new to OCR, or are considering switching from your current provider/awarding organisation, you can request more information by completing the Expression of Interest form which can be found here: www.ocr.org.uk/expression-of-interest

OCR Resources: *the small print*
OCR's resources are provided to support the delivery of OCR qualifications, but in no way constitute an endorsed teaching method that is required by OCR. Whilst every effort is made to ensure the accuracy of the content, OCR cannot be held responsible for any errors or omissions within these resources. We update our resources on a regular basis, so please check the OCR website to ensure you have the most up to date version.

This resource may be freely copied and distributed, as long as the OCR logo and this small print remain intact and OCR is acknowledged as the originator of this work.

Our documents are updated over time. Whilst every effort is made to check all documents, there may be contradictions between published support and the specification, therefore please use the information on the latest specification at all times. Where changes are made to specifications these will be indicated within the document, there will be a new version number indicated, and a summary of the changes. If you do notice a discrepancy between the specification and a resource please contact us at: resources.feedback@ocr.org.uk.

OCR acknowledges the use of the following content:
Square down and Square up: alexwhite/Shutterstock.com

Please get in touch if you want to discuss the accessibility of resources we offer to support delivery of our qualifications: resources.feedback@ocr.org.uk

Looking for a resource?

There is now a quick and easy search tool to help find **free** resources for your qualification:

www.ocr.org.uk/i-want-to/find-resources/

www.ocr.org.uk

OCR Customer Contact Centre

Vocational qualifications
Telephone 02476 851509
Facsimile   02476 851633
Email vocational.qualifications@ocr.org.uk

OCR is part of Cambridge Assessment, a department of the University of Cambridge. *For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored.*

© **OCR 2018** Oxford Cambridge and RSA Examinations is a Company Limited by Guarantee. Registered in England. Registered office The Triangle Building, Shaftesbury Road, Cambridge, CB2 8EA. Registered company number 3484466. OCR is an exempt charity.