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Examiners' Report  
Principal Examiner Feedback

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Pearson Edexcel International  
Advanced Level In  
Information Technology (WIT13)  
Paper 01

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## **Introduction - historical context**

For those reading this report in future years, 2020 was the year when examinations were disrupted by COVID19.

The October 2020 paper was written for the June 2020 examinations. That examination series was cancelled and students were given calculated grades. The paper was offered in October for students who were dissatisfied with their calculated grade.

Due to decisions by the UK government, calculated grades were replaced by teacher assessed grades and very few students opted to sit the October examination.

As a result, the entry for this examination is very small. This means that statistical information is likely to be unreliable. Even comments such as 'most candidates got both marks for this question' could be misleading as the candidates cannot represent the full range of abilities and experience of a 'normal' entry.

### **Report format**

In light of the very small entry, this report will not try to analyse the responses to each item. Most of the short items, where answers are listed in the mark scheme will be dealt with briefly. Instead, it will concentrate on the longer questions, where some examples and commentary might be useful to those preparing students for future examinations. This report should be read in conjunction with the mark scheme.

### **Report on individual items**

1a(i). Is about the use of virtual servers. The mark scheme lists acceptable answers. No others were seen but any reasonable way of saving money would be allowed as long as it is applicable to the context of a web hosting company using virtual servers.

1a(ii) Is about reasons for using virtual servers.

This worth two marks.

The mark scheme lists acceptable answers. No others were seen but any plausible reason would be allowed as long as it is applicable to the context of a web hosting company using virtual servers.

1b. Asks for three ways in which a container differs from a virtual machine.

This is worth three marks.

The mark scheme lists acceptable answers.

Answers must include a comparison. e.g the answers;

- 1. Virtual machines have a hypervisor.
- 2. Containers have a container manager.

Would only get 1 mark between them.

1c. Asks how the owners of websites that use cloud storage achieve more flexibility and security.

This is worth four marks.

The answers in the mark scheme are indicated to be 'may include' and are therefore not a definitive list. The answers need to be relevant to websites being held in the cloud. The answers need to address both flexibility and security but can be 2 + 2 or 3 + 1. Answers that only address one aspect would be capped at three marks.

2a. Asks for a description of two ways that a grocery chain could use a management information system. Preparation of financial reports is given as an example.

This is worth four marks but is effectively two lots of two marks.

The answers in the mark scheme are indicated to be 'may include' and are therefore not a definitive list. The answers need to be relevant to a chain of grocery shops. Answers about financial reports would not be correct as that is given in the question.

The mark scheme includes the expected structure of an answer;  
Performing action related to MIS (1) in order to do something for the business (1). The business could be a person such as a manager or a department such as marketing.

2b. Asks for a description of two ways that the company could use an intelligent transport system to manage its fleet of vehicles.

This is worth four marks but is effectively two lots of two marks.

The answers in the mark scheme are indicated to be 'may include' and are therefore not a definitive list. The answers need to be relevant to a vehicle fleet for a chain of grocery shops but do not need to specifically mention the shops. e.g. an answer about planning a delivery route would be assumed to mean delivery to shops.

2c. Is a short essay question about how transaction processing benefits the grocery company.

The indicative content in the mark scheme includes a wide range of possible benefits. Good answers do not need to include all of them.

The level three descriptor requires 'accurate and relevant knowledge, and a balanced and fully developed discussion'. Balance may be satisfied by discussing benefits from two or more areas of the indicative content.

A good answer is likely to group multiple benefits under one heading, such as tracking customer data to; provide targeted marketing, improve customer experience by giving them a chain-wide account, and use those accounts to integrate payment methods.

3. Is a long essay question about the security of Internet of Things devices. In this question, a coffee making machine. The questions asks for an evaluation of the impact of weak IoT security on individuals, organisations and data, in the context of the coffee machines.

This is worth twelve marks.

The indicative content in the mark scheme includes a range of possible issues. It is not a definitive list and any plausible issue could be mentioned and evaluated. Good answers do not need to include all of them but should include something about individuals, organisations and data as these are specified in the question. A conclusion about what security measures should be taken is also required.

The level three descriptor requires ' accurate and relevant knowledge, a coherent and fully developed response, an awareness of competing arguments, and a conclusion supported by evidence'.

A good answer would probably look at two issues for each of individuals, organisations and data, but could lean more heavily towards one of these aspects and still be considered balanced. It is also likely to mention security weaknesses/measures for each issue.

There is no 'correct' conclusion. Any reasonable measures that would improve security are acceptable. The conclusion should however agree with the arguments made by the candidate.

4a. Is a short practical question, about an information flow diagram.

This is worth six marks.

The mark scheme contains six items.

Candidates need to produce a fully complete diagram to get full marks.

The specification does not give symbols to use in an information flow diagram so any symbol may be drawn. Marks relate to correctly labelled items, not the symbols used.

Sensible alternative labels, e.g. beam control / radar controller, number plate / car registration, are acceptable as long as the meaning is clear.

4b. Is a short essay question about the benefits and drawbacks of using a pilot changeover method when automating a set of car parks.

This is worth six marks.

The indicative content in the mark scheme includes a range of possible benefits and drawbacks. Good answers do not need to include all of them.

The level three descriptor requires 'accurate and relevant knowledge, and a balanced and fully developed discussion'. Balance can be shown by writing about two or more areas of the indicative content.

Relevancy is likely to be automatic, as long as the candidate is writing about car parks. The descriptors for short essay, discuss questions are always the same and, in this case, the 'balanced' and 'accurate' parts would be weighted more heavily than the 'relevant' part.

Weaker answers are likely be more about what a pilot changeover is, rather than its benefits and drawbacks in the context given.

5a. Asks for an explanation of how an active data dictionary differs from a passive one when the database is running..

This is worth three marks.

The mark scheme gives the expected structure of an answer;  
One mark for each of two differences, one mark for a consequence of a difference.

A more extended explanation of one difference, with a consequence would also be acceptable.

5b. Asks about functions of a data dictionary. The function of holding metadata is given.

This is worth three marks.

The answers in the mark scheme are indicated to be 'such as' and are therefore not a definitive list, although no other answers were seen.

Answers which describe holding metadata in different words are not correct.

5c. Is a large practical question, about a data dictionary.

This is worth nine marks.

The mark scheme contains twelve items.

Candidates do not need to produce a fully correct dictionary to get full marks.

There is no standard way of writing items in a data dictionary, so any understandable and consistent naming conventions are allowable.

e.g. The table names could be:

- Contact, Address
- Tbl\_Contact, Tbl\_address
- ContactTable, AddressTable

These would all be acceptable, while e.g.

- contact, Address
- Tbl\_Contact, Tbl Address
- Contact Table, AddressTable

would be incorrect.

6a. Is a large practical question, about a critical path diagram.

This is worth nine marks.

The mark scheme contains nine items but candidates do not need to produce a fully complete diagram to get full marks.

It was decided that the full diagram would be too much to expect in the time allowed for the question and there were too many marks that required the early/left hand side of the diagram to be correct because of follow through on the logic.

The mark scheme was therefore simplified to allow most of the marks to be obtained from the first seven tasks as this was thought to be enough for candidates to be able to demonstrate the relevant knowledge.

6b. Is a short essay question about the benefits and drawbacks of a novice using critical path analysis for a project.

This is worth six marks.

The indicative content in the mark scheme includes a range of possible benefits and drawbacks. Good answers do not need to include all of them.

A good answer would include both benefits and drawbacks, and a something about the problems that a novice user might have.

Weaker answers are likely to miss out the novice problems and give a more generic answer about using critical path analysis.

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