



GCE A Level – NEW

1530U30-1



S19-1530U30-1

MONDAY, 3 JUNE 2019 – MORNING

**INFORMATION AND
COMMUNICATION TECHNOLOGY – A2 unit 3
Use and Impact of ICT**

2 hours 30 minutes

ADDITIONAL MATERIALS

A WJEC pink 16-page answer booklet.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Answer **all** questions in Section A and **one** question group in Section B.

Use both sides of the paper. Write only within the white areas of the booklet.

Write the question number in the two boxes in the left hand margin at the start of each answer.

Leave at least two line spaces between each answer.

The intended marks for questions or part questions are given in brackets []. You are advised to divide your time accordingly. The total number of marks available is 90.

You are reminded of the necessity for good written communication and orderly presentation in your answers.

Quality of written communication will be assessed in question 8.

SECTION A

Answer all questions.

0	1	<p>A number of factors are important when designing a good Human Computer Interface (HCI). For each of the following two factors, describe three different examples of user requirements which should be taken into account when designing a user interface. [2 × 3]</p> <p style="text-align: center;">Use by disabled people Expertise of the user</p>
0	2	<p>Many businesses now use their networks for Electronic Data Interchange (EDI) and to create an online shopping system. State what is meant by EDI and describe two advantages to business of using EDI. [3]</p>
0	3	<p>Other than <i>a secure method of payment</i>, describe three requirements needed to set up an online shopping system. [3]</p>
0	4	<p>A company conducts a risk analysis to estimate how much money it needs to spend on minimising risk. Describe the four main factors involved in a risk analysis. [4 × 2]</p>
0	5	<p>A company has decided it needs to update its network. Discuss the advantages and disadvantages of using a mesh network configuration. [6]</p>
0	6	<p>Other than being flexible, discuss in detail four features of an effective Management Information System (MIS). [4 × 2]</p>
0	7	<p>Cloud Computing is becoming increasingly important in the IT world. Discuss the advantages and disadvantages of using Cloud Computing Services to provide applications and develop platforms. [6]</p>
0	8	<p>When companies use information technology it raises a number of legal and moral issues. <i>Other than the digital divide or equity</i>, discuss with examples, four legal and moral issues companies would have to consider. [4 × 2]</p>
0	9	<p>Describe three factors which contribute to the digital divide. [3 × 2]</p>
1	0	<p>Other than <i>physical security</i>, describe three factors which must be taken into account when designing security policies. [3 × 2]</p>

1	1
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When choosing a network for a company there are a number of factors which influence the choice. Describe the following factors: [3 × 2]

- How the system will be used
- Performance in terms of speed of processing
- Cost of the network

1	2
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Explain, by using examples, what is meant by the following terms used with regard to relational databases: [3 × 2]

- Data consistency
- Data redundancy
- Data independence

SECTION B

Answer **either** questions 13 and 14 **or** questions 15 to 17.

1	3
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System investigation is the part of the System Development Life Cycle which analyses the existing system and produces the feasibility report. Other than *investigating the existing hardware and software*, describe what factors of the system should be investigated in order to produce the feasibility report. [5 × 2]

1	4
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Define what is meant by distributed databases. With reference to suitable examples, discuss the advantages and disadvantages of using distributed databases. [8]

1	5
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Up to date, accurate and complete information adds value to organisations by aiding decision making. Describe using different examples, **two** ways in which an organisation can do this. [2 × 2]

1	6
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Big data can be described in terms of the following three characteristics:

- Volume
- Variety
- Validity

Describe what is meant by these **three** characteristics in relation to data processing. [3 × 2]

1	7
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There are a number of threats to data. Other than *methods of controlling access to computer rooms*, describe **four** ways data can be kept safe from deliberate crime or misuse. [4 × 2]

END OF PAPER