



GCE A Level – LEGACY

1243/01



**INFORMATION AND
COMMUNICATION TECHNOLOGY – IT3**
Use and Impact of ICT

FRIDAY, 16 JUNE 2017 – MORNING

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 **10**.

SECTION A

Answer all questions.

0 1	Other than <i>on screen help</i> , <i>disabled access</i> and <i>differentiation between user expertise</i> , describe three other factors which should be considered when designing a suitable human computer interface for use in the workplace. [3×2]
0 2	Three factors to be considered when a company updates or installs a new network are <i>costs</i> , <i>performance</i> and <i>how the system will be used</i> . For each of these three factors describe two considerations which will influence the company's choice of a new or updated IT network. [3×2]
0 3	One of the strategies used by a network manager is <i>configuration management</i> . Describe in detail what is meant by configuration management and give four positive effects from the use of systematic configuration management on the network. [6]
0 4	An organisation is updating their computer network and consequently are reviewing their network topology. Explain what is meant by <i>network topology</i> and, other than cost , discuss the relative advantages of ring and star topologies. [6]
0 5	A multinational company has developed an e-commerce system. Other than it can be <i>cheaper to buy goods online</i> , discuss the benefits and drawbacks e-commerce gives the company and the customers. [8]
0 6	There are a number of moral, social and ethical issues associated with the Internet. Other than censorship and <i>privacy</i> , discuss the effect that the internet has on <i>communities</i> . [8]
0 7	The use of videoconferencing is becoming more prevalent in modern society. Describe briefly two different uses of videoconferencing in medicine and then give one advantage and one disadvantage of videoconferencing in general. [4]
0 8	Explain what is meant by an <i>employee code of conduct</i> and, other than password related issues and <i>introducing viruses</i> , describe four potential problems of using ICT in the workplace which such a code is designed to prevent. [6]
0 9	Define what is meant by a Management Information System (MIS) and, other than the complexity of the system , describe in detail three factors which can lead to a poor MIS. [8]
1 0	A company is introducing a new ICT system, this will mean that their workers will have to cope with a number of changes. Describe four of these changes which are likely to be a cause of stress to the workers and also describe the worries that these staff may have. [8]
1 1	Describe what is meant by <i>distributed computing using the Internet</i> and other than cost , describe two advantages and two disadvantages of distributed computing. [6]

SECTION B

Answer **either** questions 12 to 14 **or** questions 15 to 18.

1 2

Before introducing a new ICT system, a systems analyst would have completed an investigation of the existing system and produced a feasibility report. If the company decides to go ahead with a new ICT system, the systems analyst would have to undertake a more detailed analysis and then design the new system.

Describe **three** different issues which will be examined in these detailed systems analysis and design stages. [3×2]

1 3

Once a new ICT system has been analysed and designed, the systems analyst must consider the most appropriate changeover strategy. Compare and contrast **two** alternative changeover strategies for the implementation of the new ICT system. [6]

1 4

Software always needs to be maintained. Explain **three** different types of software maintenance that could be needed and explain why each is needed, illustrating your answer with suitable examples. [6]

1 5

In a relational database, data is held in tables using primary and foreign keys. Explain the difference between primary and foreign keys. [2]

1 6

A van hire company is expanding and wants to change from a manual system of storing hire data to using a relational database. At present, customers can only hire one van at a time. Below is one table that they are using,

CUSTOMER [Customerid, Firstname, Surname, Address1, Address2, Town.....]

In this table Customerid is the primary key.

Give **two** other suitable tables you would expect to see in this van hire system, identifying any primary or foreign key fields. [7]

1 7

A company is expanding the number of its retail outlets throughout the country. They intend to use a *distributed database* to store stock and sales data. Give advantages and disadvantages for the company in using a *distributed database*. [6]

1 8

The owner of the company has heard of *data mining* and wonders if it might benefit the company. Explain what is meant by data mining and give a detailed example of how companies have benefited from its use. [3]

END OF PAPER