



Rewarding Learning

General Certificate of Secondary Education
2011

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Candidate Number

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StudentBounty.com

Information and Communication Technology

Full Course

Paper 2
Higher Tier



G5804

[G5804]

THURSDAY 16 JUNE, AFTERNOON

TIME

1 hour.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Complete in blue or black ink only. **Do not write in pencil or with a gel pen.**

Answer **all ten** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100, including a maximum of 5 marks for quality of written communication.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

For Examiner's use only

Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
QWC	

Total Marks

[]

6866

Examiner Number

[]



J U N 1 1 G 5 8 0 4

- 1 (a) An examinations officer has created a relational database to store data about students who are taking examinations. Part of the database is shown below.

STUDENT TABLE

Student ID	Surname	Forename	Date of Birth	Gender
1000	Devlin	Anna	10/01/1995	F
1001	Kane	John	15/03/1995	M
1002	Walsh	Jack	12/09/1994	M
1003	Taylor	Eleanor	01/01/1993	F
1004	Smyth	Lesley	26/05/1993	F
1005	Doherty	Mark	01/04/1993	M

EXAMINATION TABLE

Examination Code	Examination Name
GCSE01	ICT
GCSE02	Mathematics
GCSE03	Geography
GCSE04	History
GCSE05	Art
GCSE06	French

John Kane is taking the Geography and Art examinations.
Eleanor Taylor and Anna Devlin are taking the ICT examination.
Mark Doherty and Jack Walsh are taking the French examination.

Examiner Only	
Marks	Remark



2 Data capture enables data to be entered onto a computer system.

(a) An example of this is **OMR**.

(i) Expand the acronym **OMR**.

_____ [1]

(ii) Give **ONE** application of OMR.

_____ [1]

(iii) List **TWO** advantages of using OMR instead of entering data using a keyboard.

1. _____

2. _____

_____ [2]

(b) Explain how **OCR** could be used to help a student who has lost the electronic copy of his coursework but still has a printed copy.

_____ [2]

Examiner Only

Marks

Remark



3 Sarah has visited a website to buy a new pair of shoes for her school formal. The website provides many facilities.

(a) Apart from purchasing goods, identify **ONE** other way Sarah can use each of the facilities listed below.

(i) An online customer account.

_____ [1]

(ii) A track order facility.

_____ [1]

(b) The website also provides information on **Deliveries** and **Returns**. How could customers make use of information from each of these two sections on the website?

Deliveries _____

Returns _____ [2]

Examiner Only	
Marks	Remark



4 Doctor Brown, a local doctor, has installed an electronic appointments system and is going to use email instead of a fax machine.

(a) List **TWO** advantages of using email instead of fax.

1. _____

2. _____ [2]

(b) Give **ONE** reason why Doctor Brown should keep the fax machine.

_____ [1]

(c) Give **TWO** pieces of information that could be obtained from the electronic appointment system.

1. _____

2. _____

_____ [2]

(d) In order to remind patients about their appointment time, the doctor has decided to buy a SMS system.

(i) In the table below tick (✓) the **TWO** statements that are **TRUE** about **SMS**.

Statement	Tick (✓)
SMS means Short Message Service	
SMS can only be sent using a mobile phone	
SMS can be received when a call is in progress	
SMS allows users to send photographs	

[2]

Examiner Only	
Marks	Remark

[Turn over



- 5 The Canal View Hotel is a new hotel. Internet access is to be provided in the bedrooms for all guests.

The manager is unsure if he should install a **PSTN** link or an **ADSL** link for his guests.

- (a) (i) Expand the acronym **ADSL**

_____ [1]

- (ii) Give **ONE** reason for using an ADSL link rather than a PSTN link.

_____ [1]

He also wants to provide wireless Internet access for guests in the hotel lobby.

- (b) Give **ONE** disadvantage of using wireless Internet connections.

_____ [1]

The hotel's IT technician tells him he must install a wireless **router** in the lobby for his guests.

- (c) What is the function of a **router** on any network?

_____ [2]

Examiner Only

Marks Remark



The manager must then choose an ISP (Internet Service Provider).

(d) List **TWO** facilities provided by an **ISP**.

1. _____

 2. _____

- [2]

The manager wants to link his staff computers in a LAN (Local Area Network) using fibre optic cable.

(e) (i) How does **fibre optic cable** transmit data?

_____ [1]

(ii) Give **ONE** advantage of using fibre optic cable for data transmission.

_____ [1]

(iii) Give **ONE** disadvantage of using fibre optic cable for data transmission.

_____ [1]

Examiner Only	
Marks	Remark
Total Question 5	



6 Alan is the owner of a website design company. He employs staff from all over the UK using teleworking.

(a) (i) State **TWO** problems Alan might have if all of his staff are employed using teleworking.

1. _____

2. _____
 _____ [2]

(ii) List **TWO** disadvantages **to the staff** of teleworking.

1. _____

2. _____
 _____ [2]

(b) Alan wants to have an interactive conversation with all of his employees at the same time.

Place a tick (✓) beside **TWO** methods of communication in the table below that would allow him to do this.

Method of communication	Tick (✓)
Instant Messaging	
SMS	
Video conferencing	
Facsimile	
Email	
MMS	

[2]

6866

Examiner Only	
Marks	Remark

[Turn over



1 3

- 7 Michael manages a call centre and is offering training to all his staff about Health and Safety when using a computer.

He wants to provide them with advice on how to keep their computer work stations safe.

- (a) State **THREE** common injuries arising from using computers too much.

1. _____
2. _____
3. _____ [3]

- (b) Give **TWO** pieces of advice Michael can give staff to help prevent injuries that arise from using computers too much.

1. _____
2. _____ [2]

- (c) Give **TWO** pieces of advice Michael should give to staff to help ensure accidents do not occur in the workplace.

1. _____

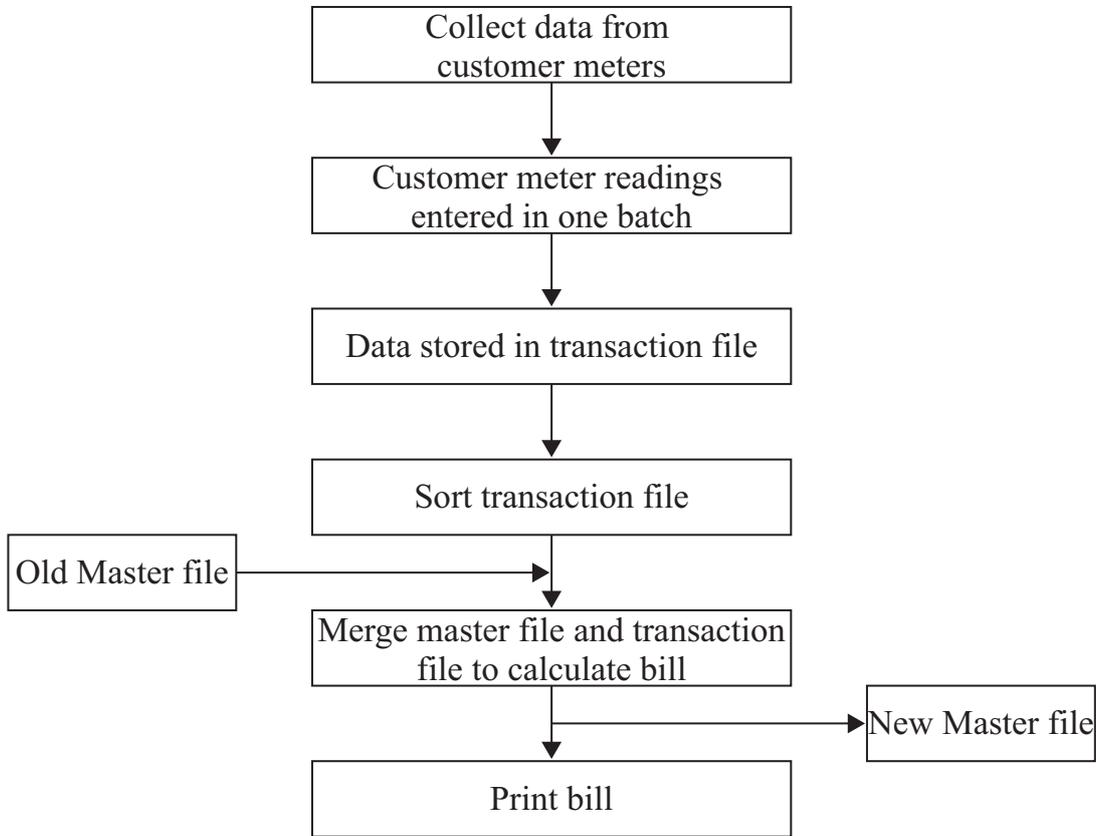
2. _____
_____ [2]

Examiner Only	
Marks	Remark
Total Question 7	



- 8 Electricity companies and gas companies use batch processing to create bills for their customers.

The following diagram describes the main stages involved in the creation of customer bills.



- (a) State why the transaction file must be sorted into the same order as the master file.

_____ [1]

Examiner Only	
Marks	Remark



- (b) In the table below place a tick (✓) beside the **TWO** pieces of data that will change after the master file and transaction files are merged.

Changes to the customer records	Tick (✓)
Customer number	
Previous meter reading	
Customer address	
Last bill total	
Customer name	

[2]

- (c) List **TWO** methods the meter reading staff could use to collect data on customer use of gas and electricity.

1. _____

2. _____ [2]

Thousands of bills are produced for customers when each batch is processed.

- (d) Give **ONE** reason why an inkjet printer would **not** be suitable for this task.

_____ [1]

Some customers wish to receive their bills via email rather than receiving a printed copy.

- (e) Give **ONE** advantage *to the company* of sending bills via email.

_____ [1]

Examiner Only	
Marks	Remark

[Turn over]



(f) Give **TWO** disadvantages *to the company* of producing customers' bills using batch processing.

1. _____

2. _____

_____ [2]

(g) List **ONE** other application where batch processing is used.

_____ [1]

Input data must be verified before processing takes place.

(h) Describe **ONE** method of verifying data.

_____ [2]

Examiner Only	
Marks	Remark
Total Question 8	



9 Virtual reality systems and simulations are often used for training and gaming.

(a) Give **ONE** advantage of using virtual reality systems to train staff.

_____ [1]

(b) Give **TWO** disadvantages of using virtual reality systems to train staff.

1. _____

2. _____
_____ [2]

Architects sometimes use virtual reality systems to create 3-D models of the buildings they are designing.

(c) Give **ONE** advantage *to clients* of using virtual reality systems in this way.

_____ [1]

(d) Apart from training staff give **ONE** example of how virtual reality could be used in medicine.

_____ [1]

Examiner Only

Marks Remark



(e) Identify **TWO** hardware devices used with virtual reality gaming systems in arcade games.

1. _____

2. _____ [2]

(f) List **TWO** differences between **simulations** and **virtual reality**.

1. _____

2. _____

_____ [2]

Examiner Only

Marks Remark

Total Question 9



THIS IS THE END OF THE QUESTION PAPER



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