

ADVANCED GCE

**APPLIED INFORMATION AND COMMUNICATION
TECHNOLOGY**

G054

Unit 15: Software Development

Candidates answer on the question paper

OCR Supplied Materials:

- Instructions for Candidates G054/IC (inserted)

Other Materials Required:

- Candidate's pre-prepared materials

**Friday 16 January 2009
Morning**

Duration: 1 hour 30 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.
- Attach your pre-prepared materials for tasks 1-4.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **100**.
- No marks will be awarded for using brand names of software packages or hardware.
- The quality of your written communication will be assessed through Q8.
- This document consists of **12** pages. Any blank pages are indicated.

For Examiner's Use		Max
Task 2		15
Task 3		10
Task 4		5
1		4
2		6
3		6
4		4
5		6
6		6
7		3
8		12
9		3
10		2
11		4
12		8
13		6
Total		100

2
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Section A

This section relates to the case study on Rods Recycling.

- 1 One of the defined purposes of the new system is to solve the problems relating to the information held by Rods Recycling.

Describe **two** other purposes of the new system.

Purpose 1

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.....

.....

Purpose 2

.....

.....

..... [4]

2 Functional and non-functional requirements will be defined during the development of the feasibility study.

(a) Describe the defined functional requirements that relate to the customers of Rods Recycling.

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.....
.....
.....
.....
..... [4]

(b) Describe the defined non-functional requirements that relate to software.

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.....
.....
..... [2]

3 The owner of Rods Recycling has defined process constraints to be considered during the development of the feasibility study.

(a) Explain the **time** constraint that has been defined by Rods Recycling.

.....
.....
.....
..... [3]

(b) (i) Identify **one** other process constraint, apart from hardware, that has been defined by Rods Recycling.

..... [1]

(ii) Describe how this has been defined by Rods Recycling.

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.....
..... [2]

- 4 Some of the problems caused by the current system relate directly to the customers of Rods Recycling.

Describe the problems relating to the customers of Rods Recycling.

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..... [4]

- 5 The owner has defined user requirements relating to the system being able to adapt to future changes affecting the operation of Rods Recycling.

Describe **two** of these requirements.

Requirement 1

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..... [3]

Requirement 2

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..... [3]

6 Recommendations about hardware and software will be made during the feasibility study.

(a) The delivery notes that are given to customers when the recycling containers are delivered are produced at the yard.

Identify the most suitable device for this task, justifying your choice.

Device

Justification

.....

.....

..... [3]

(b) The recycling bonus due to a customer is calculated at the yard.

Identify the most suitable type of software for this task, justifying your choice.

Software type

Justification

.....

.....

..... [3]

7 Observation is one method that can be used when investigating the system at Rods Recycling.

Identify **one** other method of investigation suitable for use at the head office of Rods Recycling, giving **two** reasons for your choice.

Method

Reason 1

.....

Reason 2

..... [3]

7
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.....
.....
..... [12]

9 Following development, the new system will need to be implemented.

Identify the most suitable implementation method for Rods Recycling, justifying your choice.

Method

Justification

.....
.....
..... [3]

Section B

You do not need the case study or your notes to answer these questions.

10 During the design of a new system an output specification is developed.

Identify **two** components of an output specification.

Component 1

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Component 2

..... **[2]**

11 Validation can be used to check the data that is being input into a system.

(a) Explain the term validation.

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.....

.....

..... **[2]**

(b) Identify **two** methods of validation.

Method 1

.....

Method 2

..... **[2]**

12 A company delivers food to supermarkets by road. Decisions must be taken to choose the best type of lorry for each delivery. The questions that need to be asked are:

- is the cargo perishable?
- will the journey take 6 or more hours?

If the cargo is perishable then a refrigerated lorry must always be used.

If the journey time is less than 6 hours then a normal lorry must be used otherwise a refrigerated lorry must be used.

(i) Complete the decision table below to show which type of lorry will be used for each delivery.

	Rule 1	Rule 2	Rule 3	Rule 4
Conditions				
Perishable?				
Actions				
Normal Lorry				

[6]

(ii) What type of lorry will be used if the food is **not** perishable and the journey time is 9 hours?

Lorry type [1]

(iii) What type of lorry will be used if the food is perishable and the journey time is 5 hours?

Lorry type [1]

Turn over for last question.

