

**ADVANCED GCE**  
**APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY**

**G054**

Unit 15: Software Development

**THURSDAY 5 JUNE 2008**

Afternoon  
 Time: 1 hour 30 minutes

Candidates answer on the question paper

**Additional materials (enclosed):** Instructions for Candidates G054/IC

**Additional materials (required):**  
 Candidates pre-prepared materials



Candidate  
Forename

Candidate  
Surname

Centre  
Number

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Candidate  
Number

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**INSTRUCTIONS TO CANDIDATES**

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or 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.
- Attach your pre-prepared material for tasks 1-4.

**INFORMATION FOR CANDIDATES**

- The number of marks for each question 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 Q7.

FOR EXAMINER'S USE		Max
<b>Task 2</b>		<b>15</b>
<b>Task 3</b>		<b>10</b>
<b>Task 4</b>		<b>5</b>
<b>1</b>		<b>4</b>
<b>2</b>		<b>4</b>
<b>3</b>		<b>4</b>
<b>4</b>		<b>4</b>
<b>5</b>		<b>6</b>
<b>6</b>		<b>4</b>
<b>7</b>		<b>12</b>
<b>8</b>		<b>5</b>
<b>9</b>		<b>4</b>
<b>10</b>		<b>3</b>
<b>11</b>		<b>6</b>
<b>12</b>		<b>8</b>
<b>13</b>		<b>6</b>
<b>TOTAL</b>		<b>100</b>

This document consists of **11** printed pages, **1** blank page and an insert.

**2**  
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**Section A**

**This section relates to the case study on Island Fly.**

**1** One of the purposes of the proposed system is to standardise the software used.

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

Purpose 1 .....

.....

.....

Purpose 2 .....

.....

..... [4]

**2** The owner and staff of Island Fly have defined functional and non-functional requirements.

**(a)** Describe **one** functional requirement that has been defined by the owner.

.....

.....

.....

..... [2]

**(b)** Describe the defined non-functional requirement that relates to software.

.....

.....

..... [2]

3 Island Fly has defined process constraints.

Describe the hardware constraints that have been defined by Island Fly.

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

4 Describe **two** problems, caused by the current system at Island Fly, that are having a direct impact on the Frequent Flyer scheme.

Problem 1.....  
.....  
.....  
.....

Problem 2.....  
.....  
.....  
..... [4]







10 Information and data about the aeroplanes needs to be stored.

Identify the most appropriate type of software for storing these records, justifying your choice.

Software .....

Justification .....

.....

..... [3]



**Section B**

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

**11** When a system has been developed and tested it needs to be implemented.

Describe the following implementation methods:

**(i)** direct/big bang .....  
.....  
.....  
.....  
..... [3]

**(ii)** pilot .....  
.....  
.....  
..... [3]

12 Diagrams and flowcharts can be used during the analysis and design stages of the systems lifecycle.

(a) Explain the function of a L0 dataflow diagram (context diagram).

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

(b) Draw and label **two** components of a systems flowchart.

[4]



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