OCR
RECOGNISING ACHIEVEMENT

ADVANCED GCE **G054**

APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

Unit 15: Software Development

THURSDAY 17 JANUARY 2008 Morning

Time: 1 hour 30 minutes

Candidates answer on the question paper.
Additional materials (enclosed): Candidates Instructions G054/IC (Inserted)

Additional materials (required):
Pre-release materials and tasks with Candidate Instructions
Candidates pre-prepared materials

CUP/T47890

Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

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.
- Do **not** write outside the box bordering each page.
- 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
Task 2		15
Task 3		8
Task 4		7
1		4
2		4
3		4
4		4
5		6
6		4
7		10
8		6
9		3
10		5
11		6
12		8
13		6
TOTAL		100

This document consists of **10** printed pages, **2** blank pages and an insert.

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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 increase the security of information held on the computers in the head office.

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

Purpose 1 .....

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Purpose 2 .....

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..... [4]

2 Functional and non-functional requirements are defined during the feasibility study.

(a) One functional requirement of the proposed system is to keep a database of members of the Frequent Flyer scheme.

Describe **one** other functional requirement of the proposed system that relates to the Frequent Flyer scheme.

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..... [2]

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

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..... [2]

3 During the development of the feasibility study the client may define process constraints.

(a) Describe the software constraint that has been defined by Island Fly.

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..... [2]

(b) Describe the budget constraint that has been defined by Island Fly.

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..... [2]

4 Describe **two** problems, caused by the current system at Island Fly, that are having a direct impact on staff who work in the hangar.

Problem 1 .....

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Problem 2 .....

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..... [4]

5 One of the defined user requirements is that there should be increased security.

Identify and explain **two** security methods that could be implemented at Island Fly.

Method 1 .....

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Method 2 .....

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..... [6]

6 Investigations must be completed during the feasibility stage.

Describe **one** advantage and **one** disadvantage of using observation as an investigation method in the head office of Island Fly.

Advantage .....

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Disadvantage .....

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..... [4]

7 One of the outcomes of the feasibility study is recommendations for the development of the proposed system.

Explain the advantages and disadvantages to Island Fly of recommending a customised off-the-shelf software package rather than a bespoke software package.

The quality of your written communication will be assessed through this question.

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8 Island Fly have decided to implement a customised off-the-shelf system. The staff at Island Fly will need to be trained to use the new system.

Identify and explain a training strategy that could be used for the administrative staff.

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..... [6]

9 The owner of Island Fly is concerned that the proposed system will be able to cope with any changes in legislation.

Identify and explain the type of maintenance that would be required.

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..... [3]

10 Data and information about the Frequent Flyer scheme need to be stored.

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

Software .....

Justification .....

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..... [3]

(b) Identify the most suitable device for backing up these records, justifying your choice.

Device .....

Justification .....

..... [2]

Section B

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

11 A physical design specification is developed during the design of a new system.

(a) Identify **two** components of the hardware specification part of the physical design specification.

Component 1 .....

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Component 2 .....

..... [2]

(b) Identify **two** components of the input specification part of the physical design specification.

Component 1 .....

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Component 2 .....

..... [2]

(c) Explain why detailed program specifications should be passed to the end-user of a system.

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.....[2]

12 It may be necessary to perform maintenance during the life of a system.

Explain the following types of maintenance giving an example of when each could be used:

(i) perfective .....

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example of use .....

..... [4]

(ii) preventative .....

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example of use .....

..... [4]

13 Evaluate the use of dataflow diagrams as a tool in the systems life cycle.

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