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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
ADVANCED GCE**

G054

**APPLIED INFORMATION AND
COMMUNICATION TECHNOLOGY**

Software Development

THURSDAY 23 JUNE 2011: Morning

DURATION: 1 hour 30 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper.

OCR SUPPLIED MATERIALS:

Instructions for Candidates G054/IC (inserted)

OTHER MATERIALS REQUIRED:

Candidate's pre-prepared materials

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).**
- **Answer ALL the questions.**
- **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 Q6 and 12.**

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SECTION A

THIS SECTION RELATES TO THE CASE STUDY ON A CLEAN HOUSE.

- 1 One of the purposes of the proposed system is to keep records of customers who use or have recently used A Clean House.**

Describe TWO other purposes of the new system.

Purpose 1 _____

Purpose 2 _____

_____ [4]

2 User requirements have been defined by the owner of A Clean House.

Describe TWO user requirements that have been defined by the owner that relate to the suppliers.

Requirement 1 _____

Requirement 2 _____

_____ [4]

3 During the development of the feasibility study, functional requirements are defined.

Using examples from A Clean House, explain the term functional requirements.

[6]

4 During the development of the feasibility study process constraints should be considered.

(a) Describe ONE defined hardware constraint.

[2]

(b) (i) Identify ONE other process constraint, apart from software and time, that has been defined by A Clean House.

[1]

(ii) Describe how this has been defined by A Clean House.

[2]

5 Describe the problems caused by the current system at A Clean House, which relate to the suppliers of the cleaning materials.

[6]

6 As A Clean House stores records of its customers, they will have to comply with the Data Protection Act.

Explain, using examples, how A Clean House can comply with the Data Protection Act.

The quality of written communication will be assessed in your answer to this question.

[12]

7 Following the implementation of the new system in A Clean House, users have requested changes to the system.

Identify and describe the maintenance strategy that would be used to implement these changes.

[3]

8 The increased security of the data and information held on the computers at A Clean House has been defined as one of the user requirements.

Identify and describe TWO logical security measures that could be used by A Clean House.

Measure 1 _____

Measure 2 _____

[6]

9 Following the implementation of the new system, detailed program specifications will be passed to A Clean House.

Explain how detailed program specifications could be used by A Clean House.

[4]

SECTION B

YOU DO NOT NEED THE CASE STUDY OR YOUR NOTES TO ANSWER THESE QUESTIONS.

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

Describe the following implementation methods:

(i) direct/big bang

[3]

(ii) parallel

[3]

11 Entity Relationship Diagrams (ERD's) and Data Flow Diagrams (DFD's) can be used during the analysis and design stage of the systems lifecycle.

(a) Explain the function of an ERD.

[3]

(b) Draw and label TWO components of a DFD.

[4]

12 Evaluate informal methods of modelling data flows within the systems life cycle.

The quality of written communication will be assessed in your answer to this question.

[7]

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