



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER



COMPUTER STUDIES

0420/33

Paper 3 Alternative to Coursework

October/November 2014

1 hour 30 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

There is one compulsory question on this paper.

Each part must be answered in the space provided.

No marks will be awarded for using brand names of software packages or hardware.

You are advised to spend at least 20 minutes reading the information at the start of question 1 since this information is needed to answer all the sections in this question.

All answers must refer to this information system.

The number of marks is given in brackets [] at the end of each question or part question.

The maximum number of marks is 60.

For Examiner's Use

This document consists of **12** printed pages.

In this question you are asked to read about:

- an existing manual, paper-based system for recording student donations to the school's chosen charity for that year
- the computer-based, semi-automatic system proposed to replace it

You are given a description of both the existing and the proposed new computer-based system.

Description of the existing system

At the start of the school year a school charity is chosen for student donations and profits from school fundraising events. Each class competes to win the school charity shield for the most money collected in the year. At present donations and profits from fund raising events are recorded by a student, elected as class treasurer, in the class record book. Every week, each class provides a display for the school notice board showing how much money they have raised so far. There is a class prize awarded every year for the best notice board display.

When a student donation is recorded, the following details are always written in the class record book:

- student name
- date
- class
- amount of donation

When a profit from a fundraising event is recorded, the following details are always written in the class record book:

- event name
- date
- class
- profit made

The total so far for the class is updated. The payments are taken to the school office where the same information is recorded in the master record book. The money is put in the safe and taken to the bank every week.

At the end of the school year the money is given to the charity, the charity shield is presented to the class that has collected the most money and a prize is awarded to the class with the best notice board displays over the year.

Description of the proposed computer-based system

The proposal is to replace all the paperwork by introducing a computer-based payment system which will contain all the information described above. For the new system, donations and profits will be recorded on the class spreadsheet, which will be automatically linked to the school master spreadsheet. Weekly totals will be displayed on the school intranet with one page for each class. There will be a class prize awarded every year for the best intranet page.

A systems analyst is to be employed to review the existing manual method. The systems analyst will be responsible for drawing up an action plan for the new computer-based system. This will then be designed, tested and implemented. All the necessary documentation will also be produced together with a full evaluation of the system's performance 12 months after its introduction.

1 (a) Give **three** tools that the systems analyst could use to check the progress of this project.

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

(b) The systems analyst wants to find out about the existing recording system from the students who have used it.

(i) State **one** method that would be appropriate and explain why the systems analyst should choose that method.

Method:

Explanation:.....

.....

.....

.....

.....[3]

(ii) State **one** method that would **not** be appropriate and explain why the systems analyst should **not** choose that method.

Method:

Explanation:.....

.....

.....

.....

.....[3]

(d) A laptop computer and a smart phone have been chosen as possible hardware for students to use this new system.

(i) Give a reason why each hardware device is appropriate.

Laptop:

.....

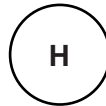
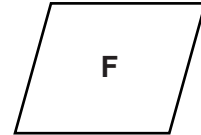
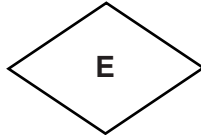
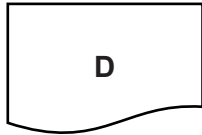
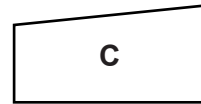
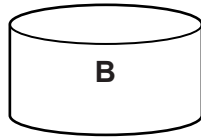
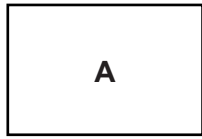
Smart phone:

.....[2]

(ii) State another type of computer that could be used for this application.

.....[1]

(e) Identify what you would use the following systems flowchart symbols for.



- A
- B
- C
- D
- E
- F
- G
- H [4]

(f) Draw a systems flowchart to show how the new computer-based system will work. Include in your systems flowchart:

- what happens when a donation is recorded
- what happens when a profit from a fundraising event is recorded
- what happens when the intranet page is updated

[8]

(g) The systems analyst wants to employ a programmer to customise a spreadsheet package to develop the charity donations recording system.

(i) Explain, with reasons, why the systems analyst should make this choice.

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.....[3]

(ii) State possible drawbacks to making this choice.

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.....[2]

(h) The value of a donation recorded must be between \$1.00 and \$10.00 inclusive.

Give **three** different types of test data.

Using the value of a donation, give **one** example of each of these types.

Explain why you chose each one as a good example.

Type 1:

Example 1:

Explanation:

.....

.....

Type 2:

Example 2:

Explanation:

.....

.....

Type 3:

Example 3:

Explanation:

.....

..... [9]

(j) Describe **three** advantages to the school of using the new system rather than the old system.

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3.....
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..... [6]

(k) Describe how the new charity donations system for the school should be evaluated.

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..... [2]

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