

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0420 COMPUTER STUDIES

0420/33

Paper 3, maximum raw mark 60

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- 1 (a) Any **three** points from:
- Gantt chart
 - Pert chart
 - Project Management (Software)
 - Spreadsheet (software)
 - Calendar software
- [3]

- (b) (i) **Method:** – questionnaire/survey
Explanation: any 2 points
- asks standard questions
 - ...so results can be analysed
 - no need for analyst to be present
 - more efficient for many students
 - incentives to return questionnaire, etc.

- Method:** – interview
Explanation: any 2 points
- only needs to interview class treasurers
 - can ask follow up questions, etc.

- Method:** – observation
Explanation: any 2 points
- gets reliable information
 - gets information first hand
 - sees exactly what is happening
- [3]

- (ii) none of the below are suitable, the explanation must match the method and explain why the method is **not** suitable

- Method:** – interview
Explanation: any 2 points
- too many students to interview
 - ...so very time consuming
 - difficult to consolidate a variety of answers

- Method:** – observation
Explanation: any 2 points
- students may find this intimidating
 - very time consuming for a small system

- Method:** – document search
Explanation: any 2 points
- would not obtain opinions from students
 - documents may no longer be available
- [3]

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(c) (i) Content

- appropriate title, e.g. Class 3 Charity Totals
- total so far in figures
- graphical representation of Total
- increase each week shown
- date/week

One mark for any one of these to a maximum of **3** marks

Layout

- intranet page is well laid out, e.g. heading, use of school/charity logo, background, etc.
- looks like an intranet page
- not a web form

One mark for any one of these to a maximum of **2** marks

Maximum total marks 4

[4]

(ii) Informative

- inclusion of class number/name
- inclusion of total amount
- inclusion of date or week
- inclusion of title
- inclusion of logo/school/charity name
- inclusion of further info about fundraising

One mark for any one of these to a maximum of **3** marks

Interesting

- graphical representation of total (so far)
- use of colour for, e.g. different colours for different weeks
- use of appropriate multimedia

One mark for any one of these to a maximum of **3** marks

Maximum total marks 4

[4]

- (d) (i)** Laptop – easily portable round school/can be used anywhere, etc.
Smart phone – always with students/familiar with using it, etc.

[2]

- (ii)** netbook/tablet/phablet/desktop

[1]

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(e) One mark for every **two** correct symbols

- A** Process
- B** Disk/file storage
- C** Keyboard/manual entry
- D** Hard copy/document output
- E** Sort/allow decision box
- F** Input/output
- G** Terminator/Start and End
- H** Connector

[4]

- 0, 1 – no marks
- 2, 3 – one mark
- 4, 5 – two marks
- 6, 7 – three marks
- 8 – four marks.

(f) One mark per process, max 4

- adding donation to class total/spreadsheet
- adding profit made to class total/spreadsheet
- adding amount to class total/spreadsheet
(if marks not given for either of the above)
- updating school total (master spreadsheet)
- transferring current total to intranet
- updating intranet page

One mark per input, max 2

- student name, (date), class, amount
- event name, (date), class, profit
- current total/amount raised this week

One mark per data store, max 2

- class records/spreadsheet
- master records/spreadsheet
- spreadsheet/donations or fundraising records
(only if none of the above are given)

One mark per output, max 2

- intranet pages (screen)
- class spreadsheet (allow examples, e.g. graphs charts, etc.)
- master spreadsheet (allow examples, e.g. graphs charts, etc.)

[8]

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- (g) (i) One mark per point, e.g.
- software already available
 - compatible with other software in use at the school
 - students familiar with using spreadsheets
 - good graphical output for use with intranet pages
 - contact the programmer if there is a problem
 - programmer already familiar with spreadsheet functionality
 - available as a phone app
- [3]

- (ii) One mark per point, e.g.
- many unused features
 - may not meet exact requirements
 - licences required for use of software
 - programmers are expensive to employ
- [2]

- (h) One mark per type, one mark per example must be for donation, one mark per reason must match example.

The following are examples only; there are many correct answers.

- normal
 - \$2.50
 - this checks that system can accept appropriate inputs

 - erroneous/abnormal
 - -\$2.00
 - checks that negative numbers are rejected

 - boundary/extreme
 - \$10.00
 - checks that boundary/extreme data is accepted
- [9]

Page 6	Mark Scheme	Syllabus	Paper
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- (i) Marking points
- initialisation
 - loop control
 - input amount of donation
 - check in range 1.00
 - ...to 10.00
 - output error message
 - increment error count
 - exit if 3 attempts have been made
 - continue if donation valid

Sample algorithm

```

error_count = 0 (1)
repeat
  input donation (1)
  if donation < 1 or donation > 10 (2)
    then
      print "Donation amount must be between $1 and $10" (1)
      error_count = error_count +1 (1)
    else error_count = -1 (1)
  until error_count = -1 or error_count = 3 (1)
  if error_count = 3 then exit (1)

```

[6]

- (j) Max **two** marks per advantage

One mark per advantage, one mark per suitable example that clearly relates to the school charity donation system (the following are just examples)

- fewer errors – donations are only recorded once
- less likelihood for information to be lost – backups can be made of the spreadsheet more easily than making copies of the class record books
- takes less time for class treasurers – entries no longer need to be copied when payments are taken to the school office
- output looks more professional – intranet pages rather than hand drawn on paper [6]

- (k) up to **two** points from

- consider if objectives of new system have been met
- look at results from tests
- discuss with school office staff whether or not new system works
- ask the students
- whether or not the new system was easy to use [2]