MARK SCHEME for the October/November 2014 series

7010 COMPUTER STUDIES

7010/33   Paper 3, maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2014 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

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]

(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]

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

    A   Process
    B   <u>Disk/file</u> 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]

(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]

(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]