CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0420 COMPUTER STUDIES

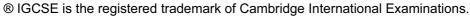
0420/33 Paper 3, maximum raw mark 60

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.

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Page 2	Mark Scheme	Syllabus	Paper
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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 informationgets 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 intimidatingvery time consuming for a small system

Method: – document search

Explanation: any 2 points

would not obtain opinions from studentsdocuments may no longer be available

[3]

Page 3		Mark Scheme	Syllabus	Paper
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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/charit	ty logo, bac <mark>l</mark>	kground,
		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
		Maximum total marko 1		

[2]

[1]

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

(ii) netbook/tablet/phablet/desktop

Page 4	Mark Scheme	Syllabus	Paper
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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]

Page 5	Mark Scheme	Syllabus	Paper
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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	
<pre>input donation</pre>	(1)
<pre>if donation < 1 or donation > 10</pre>	(2)
then	
<pre>print "Donation amount must be between \$1 and \$10"</pre>	(1)
error_count = error_count +1	(1)
<pre>else error_count = -1</pre>	(1)
<pre>until error_count = -1 or error_count = 3</pre>	(1)
<pre>if error_count = 3 then exit</pre>	(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]