AS

Computer Science

Paper 1 Additional Questions
Mark scheme

V1.0
8/4/15

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available from http://www.aqa.org.uk/

COMPONENT NUMBER: Paper 1 Additional Questions

COMPONENT NAME:

STATUS:

DATE: 27 Mar 2015

To Examiners:

- **When to award '0' (zero) when inputting marks on CMI+**
  A mark of 0 should be awarded where a candidate has attempted a question but failed to write anything credit worthy.

  Insert a hyphen when a candidate has not attempted a question, so that eventually the Principal Examiner will be able to distinguish between the two (not attempted / nothing credit worthy) in any statistics.

- This mark scheme contains the correct responses which we believe that candidates are most likely to give. Other valid responses are possible to some questions and should be credited. Examiners should refer responses that are not covered by the mark scheme, but which they deem creditworthy, to a Team Leader.

The following annotation is used in the mark scheme:

;	- means a single mark
//	- means alternative response
/	- means an alternative word or sub-phrase
A	- means acceptable creditworthy answer
R	- means reject answer as not creditworthy
NE	- means not enough
I	- means ignore
DPT	- in some questions a specific error made by a candidate, if repeated, could result in the failure to gain the mark. The **DPT** label indicates that this mistake should only result in a candidate losing one mark on the first occasion that the error is made. Provided that the answer remains understandable, subsequent marks should be awarded as if the error was not being repeated.

Level of response marking instructions.

Level of response mark schemes are broken down into a number of levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are a range of marks in each level. The descriptor for the level represents a typical mid-mark performance in that level.

Before applying the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level. ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

01	1		**Mark is for AO2 (apply)** D;	1

01	2		**Mark is for AO2 (apply)** A;	1

02	1		**All marks AO2 (apply)**	3

A	B	TEMP	OUTPUT
100	60	60	
	40		
60		40	
	20		
40		20	
	0		
20			The value is 20

One mark - first bordered area of table completed correctly;
One mark - second bordered area of table completed correctly;
One mark - correct output in last row of table;
I. Relative positions of variables in each bordered area

02	2		**All marks AO2 (apply)** greatest common divisor // GCD;	1

03	1		**Marks are for AO2 (analysis)** The values are being stored as string; the string 007 is (alphabetically) less than 06;	2

03	2		**Mark is for AO3 (programming)**	2

```
IF Value1 < Value2 THEN
    OUTPUT "Value 2 is larger"
ELSE IF Value1 = Value2 THEN
    OUTPUT "Value1 and Value2 are the same"
ELSE
    OUTPUT "Value 1 is larger"
ENDIF
```

One mark - addition of check for equality and output message;
One mark - statement works correctly;

04	1		**Marks are for AO3 (programming)**	3

Type of statement	Line of code from Skeleton Program
assignment	`MonsterAwake.Is = False`
iteration	`for Count in range(NO_OF_TRAPS):`
selection	`if NewGame:`

One mark for each correct line taken from `SetUpGame`

NOTE: Other examples exist - check against Skeleton Program for the language being used by student.

04	2		**Mark is for AO2 (analysis)** PlayGame;	1

04	3		**Mark is for AO2 (analysis)** MakeMove; **NOTE:** Other examples exist - check against Skeleton Program for the language being used by student.	1

05	1		**Marks are for AO1 (knowledge)**	4

Activity	Analysis	Design	Implementation	Testing	Evaluation
writing the program code	○	○	●	○	○
using boundary data	○	○	○	●	○
receiving end user feedback	○	○	○	○	●
identifying system objectives	●	○	○	○	○
planning data structures	○	●	○	○	○

One mark for each row completed correctly