UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Advanced Subsidiary Level and Advanced Level

MARK SCHEME for the June 2005 question paper

9691 COMPUTING

9691/02 Paper 2 (Practical Tasks), maximum raw mark 60

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which Examiners were initially instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the *Report on the Examination*.

- CIE will not enter into discussion or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the June 2005 question papers for most IGCSE and GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses

Grade thresholds for Syllabus 9691 (Computing) in the June 2005 examination.

	maximum mark available	minimum mark required for grade:		
		A	B	E
Component 2	60	54	52	40

The thresholds (minimum marks) for Grades C and D are normally set by dividing the mark range between the B and the E thresholds into three. For example, if the difference between the B and the E threshold is 24 marks, the C threshold is set 8 marks below the B threshold and the D threshold is set another 8 marks down. If dividing the interval by three results in a fraction of a mark, then the threshold is normally rounded down.

June 2005

GCE A/AS LEVEL

MARK SCHEME

MAXIMUM MARK: 60

SYLLABUS/COMPONENT: 9691/02

COMPUTING
Paper 2 (Practical Tasks)

UNIVERSITY of CAMBRIDGE
International Examinations

The mark points indicated on the mark scheme are listed below. Indicate with a tick where each mark has been awarded.

*Please note that where a **Maximum Mark** is indicated, candidates cannot be awarded anything greater than that amount, even if the number of ticks against mark points exceeds the maximum. If the number of ticks is less than the maximum, then the number of ticks is the mark to be awarded.*

Please ensure that you attach this mark sheet to each candidate's work.

			✓
1 (a)	Give 1 mark for each of the following attributes, providing it has been described *and* given an appropriate data type.		
	Lecturer Table		**Max 4 marks**
	Lecturer ID	• A unique field	
		• Appropriate data type	
	Lecturer name	• Gives name of the lecture	
		• Text string type	
	Office	• Identifies the lecturer's office	
		• Alphanumeric string type contains 2 uppercase letters, 3 digits	
		• Validation/mask for Office ID	
	Phone	• 4-digit telephone number	
		• Numeric string type	
		• Validation/mask for phone number	
	Module Table		**Max 2 marks**
	Module ID	• A unique field	
		• Alphanumeric string type - 2 letters, 4 digits	
		• Validation/mask for module ID	
	Description	• Name of the module	
		• Text string type	
	Module/Lecturer table		**Max 2 marks**
	Module ID	• A unique field	
		• Alphanumeric string type	
		• Validation/mask for module ID	
	Lecturer ID	• A unique field	
		• Appropriate data type	
	• **1 mark** if key for lecturer table has been clearly specified		
	• **1 mark** if key for module table has been clearly specified		
	• **1 mark** if key for ModuleLecturer table has been clearly specified as a composite key (both attributes)		
Max 11 marks			**Sub-total 1 (a)**

		✓
(b) (i)	• The form has a clear heading and description of its purpose • There are boxes for all the attributes need to be input	
Max 2 marks	**Sub-total (b) (i)**	
(ii)	• The form has a clear heading and description of its purpose • There are boxes for all the attributes need to be input	
Max 2 marks	**Sub-total (ii)**	
(iii)	• The form has a clear heading and description of its purpose • There are boxes for each attribute • The values can be chosen from the list	
Max 2 marks	**Sub-total (iii)**	
(c)	• The user is asked for a lecturer's ID • This can be chosen from a list • A correct list of modules is produced	
Max 2 marks	**Sub-total (c)**	
(d)	• There is a heading describing the purpose of the list • The report has a date • The page(s) are numbered • All the modules are listed • In module ID order • All the lecturers for each module are listed	
Max 3 marks	**Sub-total (d)**	
2	Give 1 mark for each sequence enclosed in parentheses and 1 mark for the output	
	N.B. Candidates are not expected to include the parentheses; these are for marking purposes only.	
(i)	(1,2,) (4,5,6,7,8,9,10,11,) (27,28,30,31,32,33,34) Output: Invalid string	
Max 4 marks	**Sub-total 2 (i)**	
(ii)	(1,2) (4,5,6,7,8,9,) (11,12,13,14,15,16,18,19,20,21,) (25,26,) (12,13,14,15,21,22,24,25,26,) (12,26,27,28,29,30,32,33,34) Output: Valid string	
Max 7 marks	**Sub-total (ii)**	
(iii)	(1,2,4,5,6,7,8,9) (11,12,13,14,15,16,18,19,20,21,) (25,26,12,13,14,15,) (21,22,24,25,26,12,13,14,15,16,17,18,20,21,) (25,26,12,) (26,27,28,30,31,32,33,34) Output: Invalid string	
Max 7 marks	**Sub-total (iii)**	

		✓
3 (a)	• User can only enter digits 0 and 1	
	• User can choose one of the four operators (+ , - , * , /)	
	• There are three boxes, two for data entry and one for output	
	• There is a clear button	
Max 4 marks	**Sub-total 3 (a)**	
(b)	• The code is well annotated	
	• Meaningful names have been used throughout	
	• The function will accept binary number (or string of binary digits)	
	• The function correctly returns the decimal equivalent	
Max 4 marks	**Sub-total (b)**	
(c)	• The code is well annotated	
	• Meaningful names have been used throughout	
	• The function will accept a decimal number	
	• The function correctly returns the binary equivalent	
Max 4 marks	**Sub-total (c)**	
(d)	• The code is well annotated	
	• Meaningful names have been used throughout	
	• There is correct code for all four functions	
Max 3 marks	**Sub-total (d)**	
(e)	• There is a set of test data for each operation	
	• The code correctly adds two binary numbers	
	• The code correctly subtracts two binary numbers with a positive result	
	• The code correctly subtracts two binary numbers with a negative result	
	• The code correctly multiplies two binary numbers	
	• The code correctly divides two binary numbers	
Max 5 marks	**Sub-total (e)**	
	Total (Max 60)	