

# UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Advanced Subsidiary Level and GCE Advanced Level

## MARK SCHEME for the November 2004 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 November 2004 question papers for most IGCSE and GCE Advanced Level syllabuses.



**Grade thresholds** taken for Syllabus 9691/02 (Computing) in the November 2004 examination.

|             | maximum mark available | minimum mark required for grade: |    |    |
|-------------|------------------------|----------------------------------|----|----|
|             |                        | A                                | B  | E  |
| Component 2 | 60                     | 56                               | 52 | 39 |

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.



**November 2004**

A AND AS LEVEL

MARK SCHEME

MAXIMUM MARK: 60

SYLLABUS/COMPONENT: 9691/02

COMPUTING  
Paper 2 (Practical Tasks)



UNIVERSITY of CAMBRIDGE  
International Examinations

| Page 1 | Mark Scheme                    | Syllabus | Paper |
|--------|--------------------------------|----------|-------|
|        | A AND AS LEVEL – NOVEMBER 2004 | 9691     | 2     |

- 1 (a) (i) Customer ID – a unique field  
 Numeric type  
 Customer name to be able to write to the person  
 Text/alphanumeric/string type  
 Street address to hold the street part of the address  
 Text/alphanumeric/string type  
 Town to hold the name of the town  
 Text/alphanumeric/string type  
 Zip code for the post code  
 Text/alphanumeric/string type  
 Telephone number  
 Text/alphanumeric/string type **Maximum 8 marks**
- (ii) Customer ID **Maximum 1 mark**
- (b) (i) Component ID - a unique field  
 Numeric type  
 Description - to know the component  
 Text/character/string type  
 Unit cost - used to create bills  
 Currency type  
 Number in stock - to see if order can be filled  
 Integer type  
 Supplier ID  
 Numeric/text/character/string type **Maximum 6 marks**
- (ii) Component ID **Maximum 1 mark**
- (c) Customer table has at least 20 entries  
 All CustomerIDs are different  
 Component table has at least 15 entries  
 Every ComponentID is different  
 CustComp table has at least one component for each customer  
 CustComp table has at least one customer for each component  
 There is at least one customer that has ordered more than one component  
 There is at least one component that has been ordered by more than one customer  
 All CustomerIDs in CustComp table exist in Customer table  
 All ComponentIDs in CustComp table exist in Component table **Maximum 7 marks**

|               |                                       |                 |              |
|---------------|---------------------------------------|-----------------|--------------|
| <b>Page 2</b> | <b>Mark Scheme</b>                    | <b>Syllabus</b> | <b>Paper</b> |
|               | <b>A AND AS LEVEL – NOVEMBER 2004</b> | <b>9691</b>     | <b>2</b>     |

- (d) The user can only enter a valid Component ID  
The report has a clear and meaningful heading  
The report gives details of the Component  
The report gives details of all the customers that bought the component together with the dates **Maximum 3 marks**
- (e) The user can only enter a valid Customer ID  
The report has a clear and meaningful heading  
The report gives details of the Customer  
The report gives details of all the components that the customer has bought together with the dates **Maximum 3 marks**

|        |                                |          |       |
|--------|--------------------------------|----------|-------|
| Page 3 | Mark Scheme                    | Syllabus | Paper |
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2

| Top | P | S(1) | S(2) | Output        |
|-----|---|------|------|---------------|
| 1   |   | 1    |      |               |
|     | 1 |      |      |               |
| 0   |   |      |      | email         |
| 1   |   | 2    |      |               |
|     | 3 |      |      | a             |
| 2   |   |      | 7    |               |
|     | 0 |      |      |               |
|     | 7 |      |      |               |
| 1   |   |      |      | communicating |
|     | 0 |      |      |               |
|     | 2 |      |      |               |
| 0   |   |      |      | is            |
| 1   |   | 4    |      |               |
|     | 0 |      |      |               |
|     | 4 |      |      |               |
| 0   |   |      |      | quick         |
| 1   |   | 5    |      |               |
|     | 6 |      |      | of            |
|     | 0 |      |      |               |
|     | 5 |      |      |               |
| 0   |   |      |      | way           |
|     | 0 |      |      |               |

Give ½ mark per row, after the first two, in the table.

Round the total up to the nearest whole number

**Maximum 10 marks**

|        |                                |          |       |
|--------|--------------------------------|----------|-------|
| Page 4 | Mark Scheme                    | Syllabus | Paper |
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- 3 (a) It is possible to enter any of the ten digits 0 to 9  
It is possible to enter a decimal point  
It is possible to enter any of the operations +, -, x, /  
It is possible to enter an = sign  
It is possible to clear the contents of the display and set it to zero  
There is a display for the results  
It is possible to turn the calculator on/off **Maximum 5 marks**
- (b) (i) *For annotation of code give:*  
2 marks if it is fully annotated  
1 mark for some annotation  
0 marks if there is no annotation or very little
- For the code give 1 mark each to a maximum of 3:*  
user can enter positive numbers  
user can enter negative numbers  
system accepts integer and decimal fractions  
user can correctly add and subtract numbers  
user can correctly multiply and divide numbers  
user can clear display  
result is correct when = sign is entered **Maximum 5 marks**
- (ii) *Table shows testing:*  
addition of two positive numbers  
addition of one positive and one negative number  
addition of two negative numbers  
subtraction of two positive numbers  
subtraction of one positive and one negative number  
subtraction of two negative numbers  
multiplication of two positive numbers  
multiplication of one positive and one negative number  
multiplication of two negative numbers  
division of two positive numbers  
division of one positive and one negative number  
division of two negative numbers  
choosing the = sign  
choosing the clear operation **Maximum 6 marks**

|               |                                       |                 |              |
|---------------|---------------------------------------|-----------------|--------------|
| <b>Page 5</b> | <b>Mark Scheme</b>                    | <b>Syllabus</b> | <b>Paper</b> |
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(iii) Give 1 mark for each of the following tests, providing they show the data entered and the result:

addition of two positive numbers

addition of one positive and one negative number

addition of two negative numbers

subtraction of two positive numbers

subtraction of one positive and one negative number

subtraction of two negative numbers

multiplication of two positive numbers

multiplication of one positive and one negative number

multiplication of two negative numbers

division of two positive numbers

division of one positive and one negative number

division of two negative numbers

choosing the = sign

choosing the clear operation

**Maximum 5 Marks**

**Total (max 60)**