|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  | | --- | --- | | **Computing (GCSE)**  Testing Paul Burgess |  | | Please note that you may see slight differences between this paper and the original.  Candidates answer on the Question paper.  **OCR supplied materials:** Additional resources may be supplied with this paper.  **Other materials required:** •   Pencil •   Ruler (cm/mm) | **Duration:** Not set | |  | | |  |

## INSTRUCTIONS TO CANDIDATES

•   Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.  
•   Use black ink. HB pencil may be used for graphs and diagrams only.  
•   Answer **all** the questions, unless your teacher tells you otherwise.  
•   Read each question carefully. Make sure you know what you have to do before starting your answer.  
•   Where space is provided below the question, please write your answer there.  
•   You may use additional paper, or a specific Answer sheet if one is provided, but you must clearly show your candidate number, centre number  
    and question number(s).

## INFORMATION FOR CANDIDATES

•   The quality of written communication is assessed in questions marked with either a pencil or an asterisk. In History and Geography   
    a *Quality of extended response* question is marked with an asterisk, while a pencil is used for questions in which *Spelling, punctuation and  
    grammar and the use of specialist terminology* is assessed.  
•   The number of marks is given in brackets **[ ]** at the end of each question or part question.  
•   The total number of marks for this paper is **6**.  
•   The total number of marks may take into account some 'either/or' question choices.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | |  |  | | --- | --- | |  |  | | **1.** | Charley is writing a program for music students. To make sure that there are no logic errors in the program, Charley uses a test plan.  The program uses the letters in the following list to represent musical notes.  C D E F G A B  When the user inputs a letter from this list, the program outputs the next three notes in the list. If it gets to the end of the list, it starts again from the beginning, so the next note after B is C.  Complete the test plan below by stating, for each input data, the expected outcome and a reason for the test.   |  |  |  | | --- | --- | --- | | **Input Data** | **Expected outcome** | **Reason for test** | | C | ............................................ | .........................................................................  ......................................................................... | | A | ............................................ | .........................................................................  ......................................................................... | | H | ............................................ | .........................................................................  ......................................................................... |   **[6]** | | |

**END OF QUESTION paper**

# Mark scheme

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Question** | | | **Answer/Indicative content** | **Marks** | **Guidance** |
| 1 |  |  | Correct answer:   |  |  |  | | --- | --- | --- | | Input Data | Expected outcome | Reason for test | | C | D E F | checks the output is the next three letters in the list | | A | BCD | checks the output goes back to the beginning of the list | | H | Error message | Not a valid / existing note |   1 mark per box | 6 | Only award the mark for Reason for test, if the Expected outcome is correct enough to justify the reason given  **Examiner's Comments** This question was fairly well answered although there are two important points to note here about such test plans. Firstly, the reason for the test should be precise enough to clearly define the test case of that row (of which the data is only an example of) and exclude the other test cases/rows. It is not enough to say “to see if it works”(this is too general) or “to see if you get DEF when you input C”(this is too specific). Secondly while preparing for this examination and doing A453, candidates should be encouraged to make their programs robust by dealing with invalid inputs in a reasonable way. It is not desirable to design a program so that when the input is invalid (as in the third row in this question) the expected outcome is that it “crashes” or “nothing happens”. |
|  |  |  | **Total** | **6** |  |