



GCE AS EXAMINERS' REPORTS

COMPUTER SCIENCE AS

SUMMER 2019

Grade boundary information for this subject is available on the WJEC public website at:
<https://www.wjecservices.co.uk/MarkToUMS/default.aspx?l=en>

Online Results Analysis

WJEC provides information to examination centres via the WJEC secure website. This is restricted to centre staff only. Access is granted to centre staff by the Examinations Officer at the centre.

Annual Statistical Report

The annual Statistical Report (issued in the second half of the Autumn Term) gives overall outcomes of all examinations administered by WJEC.

Components	Page
Component 1	1
Component 2	3

COMPUTER SCIENCE

GCE AS

Summer 2019

COMPONENT 1 FUNDAMENTALS OF COMPUTER SCIENCE

General Comments

This is the fourth year of awarding the new reformed specification and despite there still only being a small number of entries for this component, it has risen slightly in 2019.

Candidates found Component 1 demanding this series and a mean mark below 50 confirms this. Relatively few candidates achieved a mark over 75.

At question level, it was pleasing to note that candidates performed well in some questions and there is a high percentage of attempts for each question. However, five of the thirteen questions have a facility factor below 50.

Comments on individual questions/sections

- Q.1** Less than half of candidates were able to name and describe the transmission method for each example given.
- Q.2** It was pleasing to see many candidates successfully describe the function of four of the main components in a contemporary CPU architecture.
- Q.3** Almost two thirds of candidates were able to describe three methods used to ensure file security, with a range of different methods given such as access rights, encryption and passwords.
- Q.4** Candidates demonstrated a lack of technical terminology when describing the features of the type of database structure given. Very few candidates gained full marks when describe the benefits and drawbacks of this type of database structure. In particular, candidates had difficulty providing drawbacks. More candidates were able to give one advantage of different users having different views of the data in this database.
- Q.5** It was pleasing to note that almost two thirds of candidates were able to write a suitable algorithm to the problem given. Some candidates lost marks where they were unable to correctly look up the error for empty cells. Some candidates were also unable to use appropriate notation for referencing the array.
- Q.6** It was very pleasing to see almost three quarters of candidates achieve full marks when simplifying the given Boolean expression.
- Q.7** Over half of candidates were able to describe the use of three types of utility software.

- Q.8** This was the worst answered question of the paper, which is disappointing given that the mathematical content has tended to be answered well in previous series. Only a quarter of marks on average were awarded to candidates for this question, with a significant number of candidates being awarded 0 marks. In Q8a, many candidates seemed unfamiliar with the term range. In Q8b, very few candidates correctly calculated the absolute errors.
- Q.9** Only around a quarter of marks on average were awarded to candidates for this question. Aside from Q9b, where around half of candidates were able to identify the error and which stage of the compilation process it would be detected, candidates struggled with the rest of the question, often naming stages that are not part of the compilation process.
- Q.10** Many candidates were able to describe the use of two tools available to a programmer in an IDE, but few were able to give more than this.
- Q.11** Less than half of candidates were able describe the contents of user documentation and fewer candidates the contents of maintenance documentation.
- Q.12** Candidates performed very well in this question, with most being awarded some credit for the responses given. Most were able to identify some potential threats to computer systems and most were able to identify off site backups as being a suitable contingency plan for disasters which affect computer systems.
- Q.13** Generally, candidates gave a response that had an adequate line of reasoning with elements of coherence, relevance, and logical structure. They showed adequate understanding of the requirements of the question and a satisfactory knowledge as specified in the indicative content both in relation to Human Computer Interaction and Changeover. Candidates presented a discussion with limited examples used appropriate technical terminology referring to the indicative content.

Summary of key points

- Candidates demonstrated a good understanding of the main components in a contemporary CPU, methods used to ensure security, writing an algorithm and potential threats to computer systems. They performed best in these questions.
- Candidates found the questions on floating point, rounding and truncation, and the contents of user documentation and maintenance documentation difficult. This was reflected in the low facility factor for these questions.

COMPUTER SCIENCE

GCE AS

Summer 2019

COMPONENT 2 PRACTICAL PROGRAMMING TO SOLVE PROBLEMS

General Comments

Component 2 is a practical examination with candidates required to demonstrate the application of knowledge and understanding at all times.

Most of the candidates demonstrated a good understanding of the specification, question attempted percentages were not available this series. Many candidates were well prepared, and many excellent answers were evident. There was evidence also that some candidates had been well prepared for some of the practical programming elements.

Comments on individual questions/sections

- Q.1** This was generally well answered by candidates. Candidates understood technical terminology such as class, object, method, inheritance, public, private or parameter well.
- Q.2** Candidates needed to apply their own understanding of GUIs/CLIs to the scenario.
- Q.3** This was considered to be a highly demanding question, requiring practical application of arrays and algorithms. Candidates generally scored well here, although some did not reference the array correctly.
- Q.4** As is usually the case with algorithm questions, some candidates scored full marks, but a large number seemed to have no clear idea about algorithm design.
- Q.5**
- i.** This was generally not well answered this series. It was disappointing to see that some centres had not thoroughly prepared candidates for the prospect of fixing “broken” code.
 - ii.** This question required candidates to program a solution to a new problem. It was quite surprising how many different interpretations of this program were created by candidates. Credit was given for functionality, however it had been implemented.
 - iii.** This question was generally well answered. Many candidates showed detailed annotation of the code they had used.

Summary of key points

- With regards to the practical programming aspect: Python was the most popular language opted for by candidates, with Visual Basic being the second most popular and the least used was Java.



WJEC
245 Western Avenue
Cardiff CF5 2YX
Tel No 029 2026 5000
Fax 029 2057 5994
E-mail: exams@wjec.co.uk
website: www.wjec.co.uk