



GCE AS EXAMINERS' REPORTS

COMPUTER SCIENCE AS

SUMMER 2022

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.

Unit	Page
Component 1	1
Component 2	4

COMPUTER SCIENCE

GCE AS

Summer 2022

COMPONENT 1

General Comments

The mean total for Component 1 this series was approximately 46.5 out of 100 marks. This represents a slight increase since this component was last examined in 2019.

Comments on individual questions/sections

Q.1 A few of the available marks were awarded to candidates for this question on input and output devices. Many candidates were unable to give specific applications for their chosen devices. Their examples were too general.

Q.2 A minority of the available marks were awarded to candidates for this question on truth tables.

A majority of candidates lost marks due to having incorrect inputs for A, B and C.

Q.3 Many of the available marks were awarded to candidates for this question on data transmission over a network.

Many candidates were able to confidently name two methods of data transmission and give an application for each. These candidates were also able to describe what happens in a network collision.

A few candidates were unable to state how multiplexing works on a computer network.

Q.4 A few of the available marks were awarded to candidates for this question on registers and the fetch-decode-execute cycle. This was the worst answered question of the paper.

A minority of candidates were able to complete the table showing how data changes when read from RAM into the control unit and program counter.

Most candidates were unable to answer the other registers and questions in this demanding question.

Q.5 A minority of the available marks were awarded to candidates for this question on Boolean algebra.

A majority of candidates were able to expand the brackets during the simplification and were able to apply the complement rule correctly. Many candidates had errors in their simplification beyond this point.

A very few candidates continue to use truth tables to answer this type of question and were therefore awarded zero marks.

- Q.6 Around half of the available marks were awarded to candidates for this question on floating-point.

Many candidates were able to correctly convert 3.125_{10} into the floating-point form. Fewer candidates were able to determine a larger denary value that could be stored by increasing the size of the exponent at the expense of the mantissa.

- Q.7 A minority of the available marks were awarded to candidates for this question on algorithms and functions.

A majority of candidates were able to describe the use of the DIV function. A few were able to state the name given to the type of algorithm and identify parameters from the functions.

- Q.8 A minority of the available marks were awarded to candidates for this question on event-driven programming paradigms.

- Q.9 Around half of the available marks were awarded to candidates for this question on algorithms.

Most candidates were able to initialise variables, input the denary number and correctly allocate bits. Fewer were able to carry out a suitable validation check on denary number to ensure number is between 1 and 15.

- Q.10 A majority of the available marks were awarded to candidates for this question on systems analysis.

Many candidates were able to explain the benefits and drawbacks of two different methods of investigation. Fewer were able to describe different procedures for backing up and, specifically, recovering data.

- Q.11 Many of the available marks were awarded to candidates for this question on open source, bespoke and off-the-shelf software. This was the best answered question of the paper.

- Q.12 Many of the available marks were awarded to candidates for this question on describe malicious and accidental damage to data and identify situations where either could occur.

- Q.13 Around half of the available marks were awarded to candidates for this question on expert systems, robotics and their effect on society.

Many candidates showed insufficient depth in knowledge on both expert systems and robotics. Responses were generally better however in relation to their impact on society.

It is worth noting that there was a noticeable decrease in the use of appropriate technical terminology, even in the better responses seen.

Summary of key points

Candidates had a reasonably good understanding of different types of software, data damage, data transmission and systems analysis. They performed best in these questions.

Candidates found the questions on registers, input/output devices, programming paradigms and algorithm functions challenging, and this was reflected in the low facility factor for these questions.

COMPUTER SCIENCE

GCE AS

Summer 2022

COMPONENT 2

General Comments

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

Comments on individual questions/sections

- Q.1 This was generally well answered by candidates. Candidates understood key elements of an entity relationship document.
- Q.2 This was generally less well answered by candidates. Candidates did not discuss various aspects as to why a proposed method of solution for the business was to be adopted.
- Q.3 This was generally well answered by candidates. Candidates understood technical terminology such as class, object, method, inheritance, public, private or parameter well.
- 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. This being a key component of computer science.
- Q.5 (a) This was generally well answered this series. It was pleasing to see that some centers had thoroughly prepared candidates for the prospect of fixing “broken”/legacy code.
- (b) 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 the candidate had implemented it.

Summary of key points

Most of the candidates demonstrated a good understanding of the specification. Many candidates were well prepared, and many excellent answers were evident. There was good evidence that candidates had been well prepared for most of the practical programming elements.



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