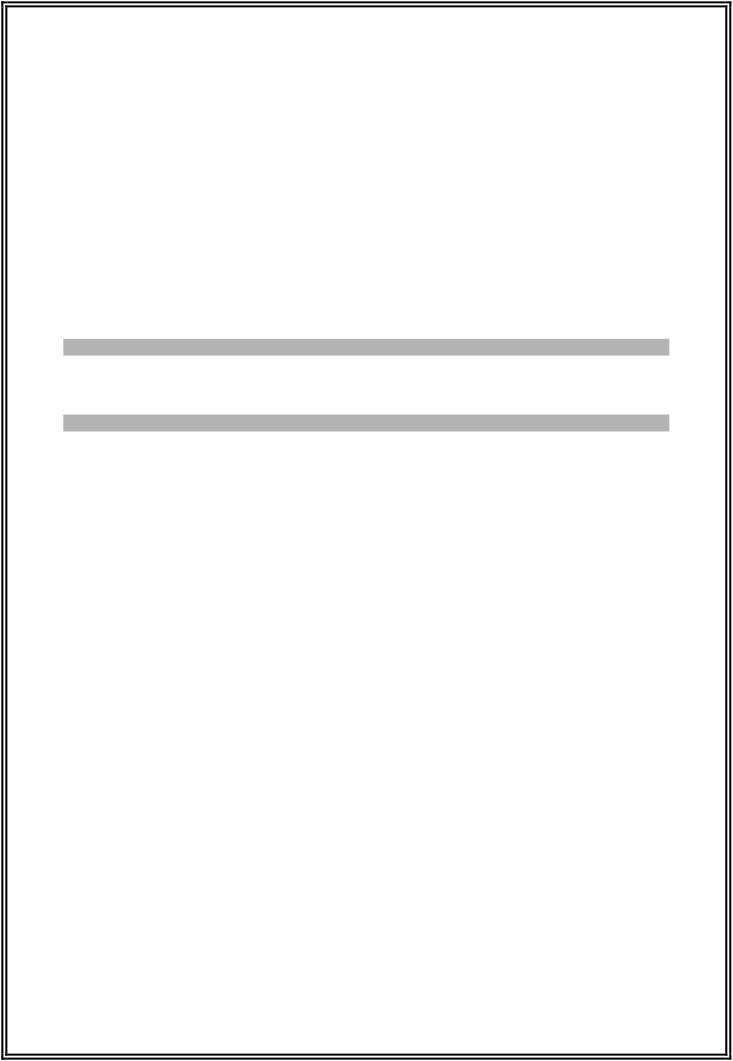
**Evaluation Only. Created with Aspose.Words. Copyright 2003-2023 Aspose Pty Ltd.**



# **GCE AS MARKING SCHEME**



**SUMMER 2019**

**AS (NEW)**

**COMPUTER SCIENCE - UNIT 1 2500U10-1**

# **INTRODUCTION**

This marking scheme was used by WJEC for the 2019 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

**WJEC**

**GCE AS Computer Science - Unit 1**

**Summer 2018 Mark Scheme**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Q** | **Answer** | **Marks** | **AO1** | **AO2** | **AO3** | **Tot** |
| 1a | Award one mark for one of the following:   * The Internet is a world-wide communications infrastructure * A network of networks | 1 | 1.1a |  |  | 1 |
| 1bi | Award one mark for one of the following:   * Sending datagrams across a network with very few **error recovery** services. * Streaming multimedia | 1 | 1.1b |  |  | 1 |
| 1bii | Assigning (dynamic) **IP addresses** to devices on a network. | 1 | 1.1b |  |  | 1 |
| 1biii | Award one mark for one of the following:   * Sending an email across a network / internet * Used to send email to an email server. | 1 | 1.1b |  |  | 1 |
| 2a | * 0 * 1   Ignore 0 or NULL for c and d No marks awarded for 0,1,3,4 | 1 1 |  | 2.1b 2.1b |  | 2 |
| 2b | * The algorithm will not output c /   c = [blank]/ [Null] / Undefined / Random data / 0   * The algorithm will not output d /   d = [blank] / [Null] / Undefined / Random data / 0   * This is because the scope of c and d lies within the function myFunction / c and d are local variables to myFunction * and the lifetime of the data stored in each variable end when myFunction ends / c and d are not available to the main program | 1 1  1 1 |  | 2.1b 2.1b  2.1b 2.1b |  | 4 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Q** | **Answer** | **Marks** | **AO1** | **AO2** | **AO3** | **Tot** |
| 3 | Award one mark for each name and one for each description of the following up to a maximum of six (3x2):  Control Unit   * Directs the flow of instructions and/or data * Coordinates the other parts of the CPU * Generates clock ticks or controls the clock   Arithmetic Logic Unit   * The ALU performs all the mathematical calculations and logical operations in the CPU.   MDR   * Register of a computer's control unit that contains the data to be stored in the computer storage (e.g. RAM), or the data after a fetch from the computer storage.   MAR   * Register that either stores the memory address from which data will be fetched to the CPU or the address to which data will be sent and stored. In other words, MAR holds the memory location of data that needs to be accessed.   CIR   * Register that holds the instruction currently being executed.   PC   * Processor register that indicates where a computer is in its program sequence.   Cache memory   * Smaller, faster memory, closer to a processor core * stores copies of the data from frequently used main memory locations * Most CPUs have different independent caches, including instruction and data caches, where the data cache is usually organized as a hierarchy of more cache levels (L1, L2, etc.)   **Registers**   * **A small amount of fast access storage** | 3x2 | 1.1b |  |  | 6 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Q** | **Answer** | **Marks** | **AO1** | **AO2** | **AO3** | **Tot** |
|  | **Normally used for a specific purpose where data or control information is temporarily stored.**  **NOT** buses |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Q** | **Answer** | **Marks** | **AO1** | **AO2** | **AO3** | **Tot** |
| 4a | Award one mark for each of the following up to a maximum of five:   * Hard drives have a fast transfer rate and a fairly fast access time. * Hard drives are a magnetic medium and store data on a hard drive platter * Data is read and saved using an arm that has a special read/write head at the end * As the disk spins, the arm travels across   the disk   * Each sector of the platter can store data and the movement of both the disk and the read/write head means that every sector on the hard drive can be reached * The faster the platter spins, the faster data can be read from the disk. (This speed is measured in revolutions per minute, or RPM) * A common speed for hard drives is 7200 RPM, but it can vary.   CONDONE: Their speed does not come close to the speed of memory, the CPU or SSD because it has moving parts (must be qualified)  CONDONE: HDD are less durable than other secondary storage devices as they have moving parts. | 5 | 1.1b |  |  | 5 |
| 4bi | Award one mark for each of the following up to a maximum of 3:   * File B is fragmented * This mean that it is split and stored on different parts of the disk * When data is fragmented, it takes longer for the disk heads to move between parts of the file, * which slows the process of loading it. | 3 |  | 2.1b |  | 3 |
| 4bii | Award one mark for each of the following up to a maximum of two:   * An SSD drive uses direct access to data (files) * There would be no deterioration in read times * as there is no physical read-head to move. | 2 |  | 2.1b |  | 2 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Q** | **Answer** | **Marks** | **AO1** | **AO2** | **AO3** | **Tot** |
| 5a | = .  Accept **C = A AND NOT B** | 1 |  | 2.1a |  | 1 |
| 5b | = .  Accept **R = NOT(P AND Q) R= NOT P AND NOT Q** | 1 |

**This document was truncated here because it was created in the Evaluation Mode.**