GCSE MARKING SCHEME

SUMMER 2019

GCSE (NEW)
COMPUTER SCIENCE - UNIT 1
3500U10-1

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 GCSE COMPUTER SCIENCE (NEW)

SUMMER 2019 MARK SCHEME

UNIT 1 - UNDERSTANDING COMPUTER SCIENCE

Guidance for examiners

Positive marking

It should be remembered that learners are writing under examination conditions and credit should be given for what the learner writes, rather than adopting the approach of penalising him/her for any omissions. It should be possible for a very good response to achieve full marks and a very poor one to achieve zero marks. Marks should not be deducted for a less than perfect answer if it satisfies the criteria of the mark scheme.

For questions that are objective or points-based the mark scheme should be applied precisely. Marks should be awarded as indicated and no further subdivision made.

For band marked questions mark schemes are in two parts.

Part 1 is advice on the indicative content that suggests the range of computer science concepts, theory, issues and arguments which may be included in the learner's answers. These can be used to assess the quality of the learner's response.

Part 2 is an assessment grid advising bands and associated marks that should be given to responses which demonstrate the qualities needed in AO1, AO2 and AO3. Where a response is not credit worthy or not attempted it is indicated on the grid as mark band zero.

Banded mark schemes

Banded mark schemes are divided so that each band has a relevant descriptor. The descriptor for the band provides a description of the performance level for that band. Each band contains marks.

Examiners should first read and annotate a learner’s answer to pick out the evidence that is being assessed in that question. Once the annotation is complete, the mark scheme can be applied.

This is done as a two stage process.

Stage 1 – Deciding on the band

When deciding on a band, the answer should be viewed holistically. Beginning at the lowest band, examiners should look at the learner's answer and check whether it matches the descriptor for that band. Examiners should look at the descriptor for that band and see if it matches the qualities shown in the learner's answer. If the descriptor at the lowest band is satisfied, examiners should move up to the next band and repeat this process for each band until the descriptor matches the answer.

If an answer covers different aspects of different bands within the mark scheme, a 'best fit' approach should be adopted to decide on the band and then the learner's response should be used to decide on the mark within the band. For instance if a response is mainly in band 2 but with a limited amount of band 3 content, the answer would be placed in band 2, but the mark awarded would be close to the top of band 2 as a result of the band 3 content. Examiners should not seek to mark candidates down as a result of small omissions in minor areas of an answer.

Stage 2 – Deciding on the mark

Once the band has been decided, examiners can then assign a mark. During standardising (marking conference), detailed advice from the Principal Examiner on the qualities of each mark band will be given. Examiners will then receive examples of answers in each mark band that have been awarded a mark by the Principal Examiner. Examiners should mark the examples and compare their marks with those of the Principal Examiner.

When marking, examiners can use these examples to decide whether a learner's response is of a superior, inferior or comparable standard to the example. Examiners are reminded of the need to revisit the answer as they apply the mark scheme in order to confirm that the band and the mark allocated is appropriate to the response provided.

Indicative content is also provided for banded mark schemes. Indicative content is not exhaustive, and any other valid points must be credited. In order to reach the highest bands of the mark scheme a learner need not cover all of the points mentioned in the indicative content but must meet the requirements of the highest mark band. Where a response is not creditworthy, that is contains nothing of any significance to the mark scheme, or where no response has been provided, no marks should be awarded.

<table>
<tr><th>Q</th><th>Answer</th><th>Marks</th><th>AO1</th><th>AO2</th><th>AO3</th><th>Total</th></tr>
<tr><td>1</td><td>Award one mark for each of the following correct cells:

<table><tr><th>Destination</th><th>Lowest Cost</th><th>Route</th></tr><tr><td>A</td><td>6</td><td>D > C > A</td></tr><tr><td>B</td><td>7</td><td>D > C > A > B</td></tr></table></td><td>2
2</td><td></td><td>1a
1a</td><td></td><td>4</td></tr>
<tr><td>2 (a)</td><td>Award one mark for each of the following up to a maximum of 6:

Cache size
• CPU 2 has more cache memory than CPU 1.
• CPU 2 will allow more data/instructions that are repeatedly used by the CPU to be stored, increasing performance as a result.
Clock speed
• CPU 1 has a faster the clock speed than CPU 2
• CPU 1 will be able to run the fetch-decode-execute cycle faster that CPU 2.
• CPU 1 can process more instructions than CPU 2.
• CPU 1 will require more power, which creates greater requirements for heat dissipation and costs more to run.

Number of cores
• CPU 2 has more cores than CPU 1,
• In theory CPU 2 is able to process four instructions at the same time, whereas CPU 1 is a dual-core CPU and two instructions may be processed at the same time. (Concept of twice as many).
• Performance may be affected where one core is waiting on the result of another and therefore cannot carry out any more instructions, leading to the performance of CPU 2 being no better than CPU 1.</td><td>6</td><td></td><td>1b</td><td></td><td>6</td></tr>
</table>

Q	Answer	Marks	AO1	AO2	AO3	Total
2 (b)	Award one mark for each of the following up to a maximum of 6: **Comparison between HDD and SSD (Max 3):** • Storage capacity – HDD has greater capacity • Speed of access – SSD is quicker / faster • Durability – SSD is more durable • Portability – Neither are portable in this instance • Cost - per unit of storage is cheaper for HDD **Comparison between DVD/RW and Blu-ray (Max 3):** • Storage capacity – Blu-ray has greater capacity • Speed of access – Inconclusive from example given • Durability – Blu-ray is more durable • Portability – Both medium are portable **Comparison between Magnetic and Optical Drive (Max 3):** • Storage capacity – HDD has greater capacity • Speed of access – HDD is quicker / faster • Durability – Optical is more durable • Portability – Both are not portable **Comparison between SSD and Optical Drive (Max 3):** • Storage capacity – SSD has greater capacity • Speed of access – SSD is quicker / faster access • Durability – Optical is more durable **HDD (Max 3)** • Hard drives have a fast transfer rate and a fairly fast access time, they provide a good compromise between storage capacity, performance and cost. • Their speed does not come close to the speed of memory, the CPU or SSD. • 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. • Can be used as a hybrid with SSD. • Fragmentation can slow access speeds	6		1b		6

Q	Answer	Marks	AO1	AO2	AO3	Total
	SSD (Max 3) • Solid State Drives feature a non-mechanical design of NAND flash mounted on circuit boards • NAND flash is shock resistant • SSDs have greater performance • Computers with SSDs have quicker boot up time • SSDs do not require defragmentation • Defragmentation may perform “trim” command which may slightly improve the speed of future write operations • SSDs consume less power: • SSDs use significantly less power at peak load than hard drives • SSDs are lighter / smaller: • SSDs offer cost savings in the long run for businesses with lower energy usage and greater productivity. • SSDs require very little power to operate which translates into less heat output by the system. • With no moving parts, SSDs run at near silent operation. **Optical (Max 3)** • Optical drives work by using lasers to store data • Burning microscopic indentations into a disc such as a CD. • This pattern of indentations is created in a spiral pattern, starting from the middle. • Indentations and their absence create pits and lands. • A laser is aimed at the disc and reflected back, which can cause interference with the original laser. • DVD-ROM uses the same techniques to store data, but the data is stored on two layers. • Some optical drives have two lasers of differing wavelength that are used to read data from the two layers. • On Blu-ray pits and lands are stored closer together, meaning that the laser’s wavelength must be shorter (blue).					

Q	Answer	Marks	AO1	AO2	AO3	Total
3 (a)	• XOR (A ⊕ B)	1		1a		1
3 (b)	• AND (A.B)	1		1a		1
3 (c) (i)	• $C = A.\overline{B}$	1		1a		1
3 (c) (ii)	• $C = \overline{A + B}$	1		1a		1
4 (a)	Award one mark for each of the following: • The protocol that allows packets to be sent and received between computer systems **– TCP** • A protocol that stores email messages on a mail server **– IMAP** • The protocol used to deliver email from the sender to an email server **– SMTP**	3	1b			3
4 (b)	Award one mark for each of the following up to a maximum of two for each: **Network layer** • Responsible for the addressing and **routing of data**. • Routers belong to the network layer as they use logical addresses to **direct the data from the sender to the receiver.** • A router **determines the path the data should take** based on network conditions. • Routers **manage traffic problems** on the network such as the routing of packets to minimise congestion of data. **Physical layer** • The physical layer t**ransmits** the raw **data**. NOT packets. • It consists of hardware such as switches and routers. • The layer deals with all aspects of **setting up and maintaining a link** between the communicating computers	4	1b			4
4 (c)	Award one mark for each of the following: • Application Layer: SMTP / IMAP • Transport Layer: TCP	 1 1		 1b 1b		2

Q	Answer	Marks	AO1	AO2	AO3	Total
5	Award one mark for naming a correct facility up to a maximum of 3: Award one mark for describing a correct facility up to a maximum of 3: • Editor: o this allows a programmer to enter and edit source code/annotation • Automatic formatting o Correctly indents code • Automatic line numbers o Helps the programmer locate errors • Automatic colour coding o Changes key words, literals and annotation to different colours • Linker o this is a program which allows previously compiled code, from software libraries, to be linked together • Loader o this is a program which loads previously compiled code into memory. • Debugger o this is a program which helps locate, identify and rectify errors in a program • Syntax error detection o Highlighting syntax errors before code is translated • Trace o this is a facility which displays the order in which the lines of a program are executed, and possibly the values of variables as the program is being run • Break point o this is a facility which interrupts a program on a specific line of code. • Variable watch o this is a facility which displays the current value of any variable. • Memory inspector o this is a facility which will display the contents of a section of memory • Threading o Allows user to see threads currently running • Output Window o Allows users to see the runtime outputs of the program CONDONE other answers that may be contained in an IDE	6		1b		6

Q	Answer	Marks	AO1	AO2	AO3	Total

	• Error diagnostics
	  ○ these are used when a program fails to compile or to run. Error messages are displayed to help the programmer diagnose what has gone wrong
	• Context sensitive menu
	  ○ IDE suggests available options
	• Statement completion
	  ○ IDE will complete a statement such as adding an 'end if' to an 'if' statement
	• Code optimisation
	  ○ Warning message when variables have been declared but not used.
	• Compilation and Interpretation of code					

<table>
<tr><th>Q</th><th>Answer</th><th>Marks</th><th>AO1</th><th>AO2</th><th>AO3</th><th>Total</th></tr>
<tr><td>6 (a)</td><td>Award one mark for the following:
• $P.(0+P)$
• P</td><td>

1</td><td></td><td>

1b</td><td></td><td>1</td></tr>
<tr><td>6 (b)</td><td>Award one mark for each of the following:
• $Q.(Q+P)+P.(Q+P)$
• $Q.Q+Q.P+P.Q+P.P$
• $Q+Q.P+P.Q+P$
• $Q.(1+P)+P.(Q+1)$
• $Q+P$</td><td>

1
1
1
1</td><td></td><td>1b</td><td></td><td>4</td></tr>
<tr><td>7 (a)</td><td>Award one mark for each of the following:
<table><tr><th>Denary</th><th>Hexadecimal</th></tr><tr><td>123_{10}</td><td>$7B_{16}$</td></tr><tr><td>41_{10}</td><td>29_{16}</td></tr><tr><td>253_{10}</td><td>FD_{16}</td></tr></table></td><td>

1

1</td><td></td><td>

1a

1a</td><td></td><td>2</td></tr>
<tr><td>7 (b)</td><td>Award one mark for each of the following rows:
<table><tr><td>18_{10}</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>89_{10}</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>Carry</td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Answer</td><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td></tr></table></td><td>

1

1

1

1</td><td></td><td>

1a

1a

1a

1a</td><td></td><td>4</td></tr>
<tr><td>7 (c)</td><td>Award one mark for each of the following:
Indicative Content
• 11010010_2
$\underline{11111100_2}$
$\mathbf{1}11001110_2$

• Identification that number too big to be stored in an 8 bit register / 9th bit cannot be stored</td><td>

1

1

1</td><td>

1a

1b

1b</td><td></td><td></td><td>3</td></tr>
</table>

Q	Answer	Marks	AO1	AO2	AO3	Total
7 (d) (i)	Award one mark for each of the following up to a maximum of two: 11110010_2 • Multiplying by 2_{10} • Number changes from 121 to 242	 1 1		 1a 1b		2
7 (d) (ii)	Award one mark for each of the following up to a maximum of two: 00011001_2 • Dividing by 4_{10} • Number changes from 100 to 25	 1 1		 1a 1b		2

Q	Answer	Marks	AO1	AO2	AO3	Total
8 (a) (i)	Award one mark for each of the following up to a maximum of three: • Images on a computer system are made up of thousands of small coloured dots, known as pixels. • Bitmap images are stored as an array of pixels. • A black and white bitmap image will store a 1 for a black pixel and 0 for a white pixel. • A colour bitmap image is stored by as a longer number that represents how much red, green and blue (RGB) is required in the colour of each pixel this is known as colour depth. • Vectors do not store the data by pixels, but are a set of instructions for drawing a geometric shape CONDONE: Metadata (qualified) being stored with the file	3	1b			3
8 (a) (ii)	Award one mark for each of the following up to a maximum of three: • Sampling is a method of converting an analogue sound signal into a digital file. • At specific intervals (frequency – bit rate) • a measurement of the amplitude (bit depth) of the signal is taken. • The amplitude of each sound sample is converted into the equivalent binary number. • CONDONE: Metadata (qualified) being stored with the file	3	1b			3
8 (a) (iii)	Award one mark for each of the following up to a maximum of two: • When characters are stored on a computer system, they are stored as a binary number. • • A character set is a table that maps a character with a unique binary number • e.g. ASCII or Unicode CONDONE: Metadata (qualified) being stored with the file	2	1b			2
8 (b) (i)	Award one mark for each of the following: • **Lossy file size:** 20 KB • **Lossless file size:** 180 KB	 1 1		 1b 1b		2
8 (b) (ii)	Award one mark for each of the following: • Lossy is unsuitable. • The process is irreversible, • Meaning text will be lost	3		1b		3

Q	Answer	Marks	AO1	AO2	AO3	Total
9	Award one mark for any of the following up to a maximum of one mark: • Policies are documents written to outline the rules that users are required to follow while using a computer network. • Policy governing the behaviour of a user whilst connected to the network. Award one mark for any of the following up to a maximum of three marks: • The policy may include some description of what may be called etiquette which includes such items of conduct as: o creation and transmission of offensive, obscene, or indecent document or images o creation and transmission of material which is designed to cause annoyance, inconvenience or anxiety o creation of defamatory material o creation and transmission that infringes copyright of another person • Transmission of unsolicited commercial or advertising material and deliberate unauthorised access to other services accessible using the connection to the network. • Then there is the type of activity that uses the network to waste time of technical staff to troubleshoot a problem for which the user is the cause, • corrupting or destroying other user's data • violating the privacy of others online • using the network in such a way that it denies the service to others • continuing to use software or other system for which the user has already been warned about using, • any other misuse of the network such as introduction of viruses. • Outline consequences of violating the policy. • Common actions that the company may take: • if the activities are illegal the organization may involve appropriate authorities, such as the local police. • Employers will at times withdraw the service from employees, • although a more common action is to terminate employment when violations may be hurting the employer in some way, or may compromise security.	1 3	1b 1b			4

Q	Answer	Marks	AO1	AO2	AO3	Total
10 (a) (i)	Award one mark for each of the following up to a maximum of two: • Worms are self-replicating programs • that identify vulnerabilities in operating systems • can enable remote control of the infected computer • can lead to data loss. • do not require a vector	2	1b			2
10 (a) (ii)	Award one mark for each of the following up to a maximum of two: • Installed by opening attachments or downloading infected software. • Spyware can be used to collect stored data (without the user's knowledge).	2	1b			2
10 (a) (iii)	Award one mark for each of the following up to a maximum of two: • A Trojan is a program that appears to perform / disguises itself as a useful function • that enables data to be stolen / damaged.	2	1b			2
10 (b)	Award one mark for each of the following up to a maximum of two for each section giving six in total: (i) Footprinting • Footprinting is the first step in the evaluation of the security of any computer system. • It involves gathering all available information about the computer system or network and the devices that are attached to it. • Footprinting should enable a penetration tester to discover how much detail a potential attacker could find out about a system • and allow an organisation to limit the technical information about its systems that is publicly available. (ii) Ethical hacking • Ethical hacking is carried out with the permission of the system owner to cover all computer attack techniques. • An ethical hacker attempts to bypass system security and search for any weak points that could be exploited by malicious hackers. • This information is then used by the system owner to improve system security.	6	1b			6

Q	Answer	Marks	AO1	AO2	AO3	Total
	(iii) Penetration testing • Penetration testing is a sub set of ethical hacking that deals with the process of testing a computer system, or network to find vulnerabilities that an attacker could exploit. • The tests can be automated with software applications or they can be performed manually. • Penetration test strategies include; • Targeted testing, testing carried out by the organization's IT team and the penetration testing team working together. • External testing, to find out if an outside attacker can get in and how far they can get in once they have gained access. • Internal testing, to estimate how much damage a dissatisfied employee could cause. • Blind testing, to simulate the actions and procedures of a real attacker by severely limiting the information given to the team performing the test.					

Q	Answer	Marks	AO1	AO2	AO3	Total
11	Award one mark for name and one for description for each of the following up to a maximum of 6: **Indicative content** File indexing • An indexed file is a computer file with an index that allows easy random access to any record given its file key. File conversion • Convert a sound file from WAV to MP3 Defragmentation • is the process where files are physically re-arranged on disk so that they are no longer fragmented and the parts of each file are stored together. Compression • software reduces file sizes using less space Task management • can see how much disk % a given program is using, can shut it down if dominating. Disk scanning and repair • fixes problems on disk. Anti-virus software • to scan for viruses which could be causing issues with the disc access speed / damaging data Backup • software allows users to archive files and delete files on the hard disk to free up space Firewall • software or hardware that protects a network or system from unauthorised access	6	1b			6

Q	Answer	Marks	AO1	AO2	AO3	Total
12	**Indicative content** **Graphical User Interface / GUI** Advantages: • Intuitive • Easy to navigate • Uses Windows. Icons, Menus, Pointers – easier for novices • Help Guides and keyboard shortcuts for experts • You do not have to learn complicated commands • They let you exchange data between different software applications Disadvantages: • Takes a lot memory • A lot of processor power is needed • Slow for experts who just want to get things done: e.g. programmers • GUIs take up a much larger amount of hard disk space than other interfaces • They need significantly more memory (RAM) to run than other interface types **Menu driven** Advantages: • No need to learn a lot of commands • Ideal for beginners – everything is in a logical place/order • Little processing power needed • Extremely easy to use. Someone who has never seen the interface before can work out what to do • Step-by-step options are given so that the user doesn't have to remember anything • Menu interfaces don't have to be visual, they can be spoken - good for telephones or for visually impaired people Disadvantages: • Poorly designed menu interface may be slow to use • It can be irritating if there are too many menu screens to work through - users get annoyed or bored if it takes too long • You often can't go to the exact place you want right at the start. You have to work your way through the menu screens even if you know where you want to get to • If the menu isn’t organised properly it could cause frustration trying to find things • Can be tedious for experts	12	1b			12

Q	Answer	Marks	AO1	AO2	AO3	Total
	Voice recognition Advantages: • Speech input is much faster than keyboard input NOT writing in • No need to learn to type • Less danger of RSI • Reduces typing mistakes such as spelling / hitting wrong key • Faster to issue commands (e.g. open word processor) • People with a disability that prevents typing can use speech input / helps with dyslexia • Hands free • Increased security (setting a voice password) NOT just recognise the user NOT No training required NOT quicker, faster without qualifying Disadvantages: • It takes a long time to train the computer to understand how someone speaks • Background noise interferes with speech recognition – cannot use computer with music in background • Unable to have a chat or use telephone and perform input at same time • Computer will never know all the proper nouns, for example Nantyffyllon • Will not understand user when they have a speech impediment, sore throat or cold NOT accept ill or reference to illness which does not affect voice. • Will not understand user when they have a strong accent • Will always need a keyboard for special keys e.g. function keys, ctrl, alt / to make alterations / as a backup if the voice recognition system fails • People with a disability that prevents speech could use a keyboard • Can't use in a quiet environment like library or quiet train • Can't keep private as people can hear what you are saying so no good for entering passwords • May not recognise words that sound the same such as 'too' and 'two'					

Q	Answer	Marks	AO1	AO2	AO3	Total
	Command line Advantages: • Quicker to type commands (NOT 'quicker' must be qualified) • Little memory needed • Little processing power needed • No need for expensive hardware • If the user knows the correct commands then this type of interface can be much faster than any other type of interface • This type of interface needs much less memory (RAM) in order to use it than other user interfaces • This type of interface does not use as much CPU processing time as others • A low resolution, cheaper monitor can be used with this type of interface Disadvantages: • For someone who has never used a CLI, it can be very confusing • Commands have to be typed precisely. If there is a spelling error the command will fail • There are a large number of commands which need to be learned • You can't just guess what the instruction might be and you can't just 'have a go'. Not suitable for a novice					

Q	Answer	Marks	AO1	AO2	AO3	Total
	Biometrics Advantages: • Each individual has unique biometric characteristics • It's difficult to forge biometric properties • A biometric property of an individual cannot be lost • Biometric properties cannot be shared • Eliminate problems caused by lost IDs or forgotten passwords • Reduce password administration costs • Replaces hard to remember passwords which may be shared or observed by others Disadvantages: • Very expensive technology • If biometric data is stolen, a fingerprint cannot be changed • Security issues with storing biometric data • Biometric identification systems undermine privacy • Identity theft more likely • For people affected with diabetes, the eyes get affected resulting in differences • Biometrics is an expensive security solution **Touch sensitive** Advantages: • A touch screen is very intuitive • Easy to use as the user simply touches what they see on the display • Save space as no keyboard or mouse is required • Touch monitors can even be mounted on the wall • Touching a visual display of choices requires little thinking and is a form of direct manipulation that is easy to learn • Touch screens are the fastest pointing devices • Touch screens have easier hand eye coordination than mice or keyboards • No extra work space is required as with other pointing devices Disadvantages: • Difficult for people with accessibility issues: no feedback • Can be easily damaged/scratched • Dirty screens difficult to read • Users must be within arm's reach of the display • It is difficult to select small items • User's hand may obscure the screen • Screens need to be installed at a lower position and tilted to reduce arm fatigue • Some reduction in image brightness may occur • They cost more than alternative devices					

Q	Answer	Marks	AO1	AO2	AO3	Total
12						

Band	AO1.1b (Max 12 marks)
3	**9-12 marks** The candidate has: • shown clear understanding of the requirements of the question and a clear knowledge of the indicative content. Clear knowledge is defined as a response that provides nine to twelve relevant detailed points from the indicative content • addressed the question appropriately discussing user interfaces. • used appropriate technical terminology referring to the indicative content accurately.
2	**5-8 marks** The candidate has: • shown adequate understanding of the requirements of the question and a satisfactory knowledge of the indicative content. Satisfactory knowledge is defined as a response that provides five to eight points from the indicative content. • addressed the question, discussing user interfaces. • used appropriate technical terminology referring to the indicative content.
1	**1-4 marks** The candidate has: • attempted to address the question but has demonstrated superficial knowledge of the indicative content. Superficial knowledge is defined as a response that provides one to four points from the indicative content. • used limited technical terminology referring to the indicative content
0	**0 marks** Response not credit worthy or not attempted.

	100	52	48	0	100