



GCE AS MARKING SCHEME

SUMMER 2025

**AS
COMPUTER SCIENCE - COMPONENT 2
B500U20-1**

About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.

This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

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 in **Component 2** the assessment grid advises the marks to allocate to responses which demonstrate the qualities needed in AO2 and AO3. There is limited indicative content as learner response will vary significantly, as the choice of solution will differ based on a variety of factors (e.g. IDE used, interface type chosen, file handling routine used). 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.

EDUQAS GCE AS COMPUTER SCIENCE

COMPONENT 2: PRACTICAL PROGRAMMING TO SOLVE PROBLEMS

SUMMER 2025 MARK SCHEME

Q	Answer	Mark	AO1	AO2	AO3	Total																																													
1	Indicative content: <table><tr><th>Fieldname</th><th>Key field</th><th>Data Type</th><th>Field Length</th><th>Validation</th></tr><tr><td>CustomerID</td><td>PK</td><td>Integer</td><td>5</td><td>Range >0</td></tr><tr><td>Firstname</td><td></td><td>Integer</td><td>5</td><td>Presence</td></tr><tr><td>Surname</td><td></td><td>String</td><td>30</td><td>Presence</td></tr><tr><td>Address 1</td><td></td><td>String</td><td>30</td><td>Presence</td></tr><tr><td>Postcode</td><td></td><td>String</td><td>8</td><td>Format</td></tr><tr><td>ContactNumber</td><td></td><td>String</td><td>12</td><td>Length</td></tr><tr><td>email</td><td></td><td>String</td><td>256</td><td>Format</td></tr><tr><td>NextBookingDate</td><td></td><td>Date/Time</td><td>2/2/4</td><td>Format</td></tr></table> Marking: Award 1 mark up to a maximum of 8 for each complete field to include field name, key field, data type, length and validation. (Note: field length must be reasonable, validation and data type also need to be reasonable).	Fieldname	Key field	Data Type	Field Length	Validation	CustomerID	PK	Integer	5	Range >0	Firstname		Integer	5	Presence	Surname		String	30	Presence	Address 1		String	30	Presence	Postcode		String	8	Format	ContactNumber		String	12	Length	email		String	256	Format	NextBookingDate		Date/Time	2/2/4	Format	8		All 2.1a		8
Fieldname	Key field	Data Type	Field Length	Validation																																															
CustomerID	PK	Integer	5	Range >0																																															
Firstname		Integer	5	Presence																																															
Surname		String	30	Presence																																															
Address 1		String	30	Presence																																															
Postcode		String	8	Format																																															
ContactNumber		String	12	Length																																															
email		String	256	Format																																															
NextBookingDate		Date/Time	2/2/4	Format																																															
2	Award 1 mark for each of: - State 1st method of changeover pharmacy could use - State 2nd method of changeover pharmacy could use - Identify the most suitable method - Justification of the chosen method. Award 1 mark for each comparison up to a maximum of 4 marks Note all marks assigned to AO3.1c must be applied to helping the pharmacy with a clear reason assigned to be awarded the mark. Indicative content: Direct/“big bang” approach can be adopted - sudden change to new system - Could be used where a failure would not be catastrophic. - Can be cheaper to implement. - New system is available immediately if required.	4 																																																	

Q	Answer	Mark	AO1	AO2	AO3	Total
	• Can be the least disruptive if implemented well. • New system may not work as well until staff are fully used to using it. • If new system fails have no system which could be costly. Parallel running - both systems running together for a time o Safest option as if new system fails they still have existing system • New system is available immediately if required. • The outputs from the old and new systems can be compared to check that the new system is running correctly. • Expensive as require temporary staff or overtime for current staff to operate both systems. • Could cause confusion for staff / customers having two systems. Phased changeover - part-by-part (by functionality) • Allows users to gradually get used to the new system. • Staff training can be done in stages. • All staff can focus on one area to resolve any problems. • Problems can be fixed quicker as more experts to resolve one functionality problem at a time. • Difficulties identified in one area can be resolved and managed in next area. • Might cause problems in the changeover period when they need to communicate with each other and have different systems. • Slower to get new system up and running compared to some other methods. • If a part of the new system fails, there is no back-up system, so data can be lost. Pilot changeover - part-by-part (by part of the organizational units within pharmacy) • All features of the new system can be fully trialled. • If something goes wrong with the new system, only a small part of the organisational operations is affected. • The staff who were part of the pilot scheme can help train other staff. • All staff can focus on one area to resolve any problems. • Difficulties identified in one area can be resolved and managed in next area. • For the office / department doing the pilot, there is no back-up system if things go wrong. • Might cause problems in the changeover period when they need to communicate with each other and have different systems. • Slower to get new system up and running compared to some other methods.					

Q	Answer	Mark	AO1	AO2	AO3	Total										
3 (a)	<table><tr><th>1</th><th>2</th></tr><tr><td>1</td><td>0.4</td></tr><tr><td>2</td><td>0.8</td></tr><tr><td>3</td><td>1.2</td></tr><tr><td>4</td><td>1.6</td></tr></table> Award 1 mark for each correct numerical value in table above.	1	2	1	0.4	2	0.8	3	1.2	4	1.6	8			3c	12
1	2															
1	0.4															
2	0.8															
3	1.2															
4	1.6															
3 (b)	Award one mark for each: • Change to line 6: * 0.1 • Annotation to support • Change discount to add + 2 to line 11 • Annotation to support Indicative content: <pre>1 output "Please enter the booking length:" 2 input bookingLength 3 4 bookingPrice = costArray[bookingLength,2] 5 6 discount = bookingLength * 0.1 {changed the multiplier} 7 8 output "Discount applied:" 9 output discount 10 11 bookingPrice = bookingPrice - discount +2 {Added a flat fee} 12 13 output "Cost for booking is:" 14 output bookingPrice</pre>	4														

Q	Answer	Mark	AO1	AO2	AO3	Total
4	All answers MUST be code from the supplied Class Diagram			All AO2 b		12
(a)	Payment	1				
(b)	Integer	1				
(c) (i)	authorised OR correctMoney OR processed	1				
(c) (ii)	cashTendered OR changeDue OR amount	1				
(d)	# indicates a protected property which is inherited	1+1				
(e)	+setAmount(Real) +getAmount() : Real +getProcessed(): Boolean +setProcessed(Boolean) : String	1				
	+setNumber(Integer) +setBank(String) +setExpiry(Integer) +authorise() : Boolean	1				
(f)	#amount : Real #processed : Boolean	1				
	-number : Integer -type : String -expiry : Integer +authorised : Boolean	1				
(g)	It is in a superclass and will therefore be inherited	1+1				

Q	Answer	Mark	AO1	AO2	AO3	Total
5 (a)	Indicative content: • Button available to save stock data • Data saves in Stock.txt • Button available to count stock attributes • The number appears on screen (in any form)	4			3.1b	4

Band	AO3.1b Max 4 marks
3	4 marks The candidate has: • Implemented all the points required as stated in the indicative content. • Used and fully exploited the programming facilities of the language. • Demonstrated a sound understanding of the appropriate tools and techniques available to them.
2	2-3 marks The candidate has: • Implemented the majority of the points required as stated in the indicative content. Majority is defined as a response that provides 2 or 3 items of the functionality signalled in the indicative content. • Used and exploited the programming facilities of the language. • Demonstrated an understanding of the tools and techniques available to them.
1	1 mark The candidate has: • Implemented only one of the points required as stated in the indicative content. • Used some of the programming facilities of the language. • Demonstrated a limited understanding of the tools and techniques available to them.
0	0 marks Response not credit worthy or not attempted.

Q	Answer	Mark	AO1	AO2	AO3	Total
5 (b)	Indicative content: • New form Exists. • New form has title. • Inputs data • Validation of Date (explicit this series) • any other validation method from: - o Range check - o Format check - o Length check - o Presence check - o Lookup check - o Drop down menu - o Type check • Creates a data file called PVbookings.txt. • Stores on disk in a text file called PVbookings.txt. • Descriptive/useful feedback that file has been saved. • Candidates may use custom data types / standard methods. • Retrieves any data from disk. • Retrieves specific entry details from disk. (Candidates may use random (direct), serial, or sequential file access). • HCI fit for purpose (Textual or GUI).	12			3.1b	12

Band	AO3.1b Max 12 marks
3	Award 9-12 marks The candidate has: • Created a new program including all or the majority of the functionality as required in the question and stated in the indicative content. The majority of the functionality is defined as a response that provides 9 to 12 items of the functionality signalled in the indicative content. • Used and fully exploited the programming facilities of the language. • Demonstrated a sound understanding of the appropriate tools and techniques available to them. • Written code that is well structured. • Provided evidence of a completed user interface which aids user interaction and is intuitive.
2	Award 5-8 marks The candidate has: • Created a new program including most of the functionality as required in the question and stated in the indicative content. Most of the functionality is defined as a response that provides five to eight items of the functionality signalled in the indicative content. • Made use of an appropriate range of the programming facilities of the language. • Demonstrated an understanding of the tools and techniques available to them. • Provided evidence of a completed user interface which aids user interaction.
1	Award 1-4 marks The candidate has: • Created a new program with a limited range of the functionality as stated in the indicative content or improved the prototype provided by adding a limited range of the new functionality as stated in the indicative content. A limited range of functionality is defined as a response that provides one to four items of the functionality signalled in the indicative content. • Used a limited range of the programming facilities of the language. • Demonstrated a limited understanding of the tools and techniques available to them. • Provided evidence of a user interface.
0	Award 0 marks Response not credit worthy or not attempted.

Q	Answer	Mark	AO1	AO2	AO3	Total
5 (c)	Indicative content: Clear annotation of steps within the following routines: • Annotation of any validation • Stores on disk • Retrieves specific item from disk Use of self-documenting identifiers / explanation of variables	4			3.1a	4
Band	AO3.1a Max 4 marks					
3	Award 4 marks The candidate has: • Produced listings that are appropriately laid out and included sufficient annotation to demonstrate an understanding of most or all programming routines listed in the indicative content. • Written code using self-documenting identifiers / explained variables. • Used appropriate technical terminology referring to the indicative content confidently and accurately.					
2	Award 2-3 marks Three marks can be awarded if the candidate has: • Produced listings that are appropriately laid out and included sufficient annotation to demonstrate an understanding of all programming routines listed in the indicative content. • Not written code using self-documenting identifiers / not explained variables. • Used appropriate technical terminology referring to the indicative content. OR • Produced listings that are appropriately laid out and included sufficient annotation to demonstrate an understanding of two of the programming routines listed in the indicative content. • Written code using self-documenting identifiers / explained variables. • Used appropriate technical terminology referring to the indicative content. Two marks can be awarded if the candidate has: • Produced listings that are appropriately laid out and included sufficient annotation to demonstrate an understanding of two of the programming routines listed in the indicative content. • Not written code using self-documenting identifiers / not explained variables. • Used appropriate technical terminology referring to the indicative content. OR • Produced listings that are appropriately laid out and included sufficient annotation to demonstrate an understanding of one of the programming routines listed in the indicative content. • Written code using self-documenting identifiers / explained variables. • Used appropriate technical terminology referring to the indicative content.					
1	Award 1 mark The candidate has: • Produced listings that are appropriately laid out and include sufficient annotation to demonstrate an understanding of one programming routine listed in the indicative content. • Used limited technical terminology referring to the indicative content. OR • Written code using self-documenting identifiers. • Used limited technical terminology referring to the indicative content.					
0	Award 0 marks Response not credit worthy or not attempted.					