

T Level Technical Qualification in

Digital: Digital Production, Design and Development

Core Knowledge and Understanding

Mark Scheme

Topic test 6: Data and information in organisations

Digital: Digital Production, Design and Development

General Marking Guidance for all Topic Tests

- All learners must receive the same treatment. Examiners must mark the first learner in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Learners must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved. Examiners should also be prepared to award zero marks if the learner's response is not rewardable according to the mark scheme.
- Where judgement is required, a mark scheme will provide the principles by which marks will be awarded.
- When examiners are in doubt regarding the application of the mark scheme to a learner's response, a senior examiner should be consulted.
- Crossed out work should be marked unless the learner has replaced it with an alternative response.
- Accept incorrect/phonetic spelling (as long as the term is recognisable) unless instructed otherwise.

Points-Based Mark Scheme Guidance

Points-based mark schemes are made up of:

1. Mark scheme rubric
A mark scheme rubric instructs an examiner as to how each mark is awarded.
2. Example Responses
These demonstrate the type of acceptable responses that a student might provide and where each mark is awarded.
3. Additional marking Guidance
This informs examiners about any parameters which should be applied eg 'accept any other appropriate/alternative responses'.

Applying the points-based mark scheme guidance

Examiners should follow the mark scheme rubric and use the example responses as a guide for the relevance and expectation of the responses. Students must be credited for any appropriate response. Should candidates provide answers that meet the rubric but in an alternative order, credit should be given.

Levels-Based Mark Scheme Guidance

Levels-based mark schemes (LBMS) have been designed to assess students' work holistically. They consist of two parts:

1. Indicative content

Indicative content reflects content-related points that a student might make but is not an exhaustive list. Nor is it a model answer. Students may make some or none of the points included in the indicative content as its purpose is as a guide for the relevance and expectation of the responses. Students must be credited for any appropriate response.

2. Levels-based descriptors

Each level is made up of a number of traits which when combined together articulate the quality of response that a student needs to demonstrate. The traits progress across the levels to demonstrate the different expectations of each level. When using a levels-based mark scheme, the 'best fit' approach should be used.

Applying the levels-based descriptors

Examiners should take a 'best fit' approach to determining the mark.

- Examiners should first make a holistic judgement on which level most closely matches the student's response. Students will be placed in the level that best describes their answer. Answers can display characteristics from more than one level, and where this happens markers must use any additional guidance (e.g. weighting of traits) and their professional judgement to decide which level is most appropriate.
- The mark awarded within the level will be decided based on the quality of the answer and will be modified according to how securely all traits are displayed at that level:
 - Marks will be awarded at the top of that level if the student has evidenced each of the descriptor traits securely.
 - Where the response does not securely meet all traits, the marks should be awarded based on how closely the descriptor has been met.



Question Number	Answer	Mark
1(a)	<p>Award one mark for identification of method and one mark for an appropriate linked explanation, up to a maximum of two marks.</p> <p>Human generated (1) by completing a form (1) AI generated (1) by mining a large amount of data (1) Generated from transactional data (1) by analysing customer orders (1)</p> <p>Accept any other appropriate response.</p>	(2)

Question Number	Answer	Mark
1(b)	<p>Award one mark for definition of metadata, one mark for an appropriate linked application and one mark for a further expansion of application, up to a maximum of three marks.</p> <ul style="list-style-type: none"> • Metadata is used for the data names and definitions in a given data warehouse(1). Additional metadata is then created for time-stamping/source of extracted data. (1). This helps in mapping of data (1) • Metadata acts as a directory (1) which helps the decision support system to locate contents of the data warehouse (1) and helps in the mapping of data when it is transformed from operational data (to the data warehouse) (1) <p>Accept any other appropriate response.</p>	(3)

Question Number	Answer	Mark
2	<p>Award one mark for each of the following linked points up to a maximum of four marks</p> <ul style="list-style-type: none"> • key field of record is used (1) • Directory (Index) is searched (1) • finds bucket that record should be in (1) • Bucket is searched linearly until record is found (1) • if end of bucket is reached before finding record then overflow area is searched (1) • if record is not found in overflow then record does not exist (1) 	(4)

Question Number	Answer	Mark
3	<p>Award one mark for explanation of data type and one mark for an appropriate linked example, up to a maximum of four marks.</p> <ul style="list-style-type: none"> • Quantitative data could be used for date of delivery (1) as this would be a unique numerical value (1) • Qualitative data could be used for customer comments (1) as this would allow for a wide range of responses (1) <p>Accept any other appropriate response.</p>	(4)



Question Number	Answer	Mark
4(a)	<p>Award one mark for identification of a benefit, one mark for an appropriate linked explanation of the benefit and one mark for a further expansion of the explanation, up to a maximum of three marks.</p> <p>A Boolean data type only has two states (1) and an order can only be marked True or False/Yes or No for the nextdaydelivery state (1). This would prevent that field being set to any other value apart from True or False (1)</p> <p>Accept any other appropriate response.</p>	(3)

Question Number	Answer	Mark
4(b)	<p>Award one mark for identification of a reason and one mark for an appropriate linked explanation, up to a maximum of two marks.</p> <p>Data at rest is data that is not being actively processed/read (1) and HI! would typically not be processing this data on a regular basis (1)</p> <p>Accept any other appropriate response.</p>	(2)

Question Number	Indicative content:	Mark
4(c)	<p>Learners might refer to some/all of the following in their responses, but learners should be rewarded for other pertinent contextualised answers:</p> <p>The evaluation may include:</p> <p>Benefits</p> <p>HI! could analyse market trends to identify patterns that inform decisions, such as identifying which type of hamper sells well in every month</p> <p>HI! can monitor user activity, such as the time spent on its website per visit, the time spent to place an order, the most popular time and day for placing orders, whether a spike in orders follows a marketing campaign</p> <p>HI! could perform targeted marketing by analysing previous customer orders</p> <p>HI! could use sales data to predict future stock levels</p> <p>HI! could use sales figures and business costs to produce break-even models</p> <p>Drawbacks</p> <p>Monthly sales are highly seasonal and there might be little trend</p> <p>The quality of the information input into the computer system heavily influences the usefulness of data output</p> <p>Any breakdown in the system would have a massive impact on the operation of the business</p>	(9)

Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates a basic analysis of the situation by superficially breaking down the different aspects into component parts (AO3a) • Demonstrates basic application of knowledge and understanding that is partially relevant to the context of the question (AO2) • Demonstrates a basic evaluation which partially considers different factors/events and competing points, leading to a conclusion which is superficial or unsupported (AO3b)
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates a good analysis of the situation by breaking down the different aspects into component parts (AO3a) • Demonstrates good application of knowledge and understanding that is relevant to the context of the question (AO2) • Demonstrates a good evaluation which considers different factors/events and competing points, leading to a conclusion which is partially supported (AO3b)
Level 3	7-9	<ul style="list-style-type: none"> • Demonstrates a thorough analysis of the situation by comprehensively breaking down the different aspects into their component parts (AO3a) • Demonstrates comprehensive application of knowledge and understanding that is consistently relevant to the context of the question (AO2) • Demonstrates a thorough evaluation which comprehensively considers different factors/events and competing points, leading to a conclusion which is well supported (AO3b)

