



T Level Technical Qualification in Digital Business Services

Core knowledge and understanding

Paper A

Mark scheme

Paper number: P001865
V1.0: Pre standardisation
603/6902/4

This mark scheme has been written by the assessment writer and refined, alongside the relevant questions, by a panel of subject experts through the external assessment writing process and at standardisation meetings.

The purpose of this mark scheme is to give you:

- examples and criteria of the types of response expected from a student
- information on how individual marks are to be awarded
- the allocated assessment objective(s) and total mark for each question.

Marking guidelines

General guidelines

You must apply the following marking guidelines to all marking undertaken throughout the marking period. This is to ensure fairness to all students, who must receive the same treatment. You must mark the first student in exactly the same way as you mark the last.

- The mark scheme must be referred to throughout the marking period and applied consistently. Do not change your approach to marking once you have been standardised.
- Reward students positively giving credit for what they have shown, rather than what they might have omitted.
- Utilise the whole mark range and always award full marks when the response merits them.
- Be prepared to award zero marks if the student's response has no creditworthy material.
- Do not credit irrelevant material that does not answer the question, no matter how impressive the response might be.
- When allocating marks across assessment objectives (AOs) within an individual response, these should logically link and should not be from disparate points of indicative content provided in the mark scheme.
- The marks awarded for each response should be clearly and legibly recorded in the grid on the front of the question paper.
- If you are in any doubt about the application of the mark scheme, you must consult with your team leader or the chief examiner.

Guidelines for using extended response marking grids

Extended response mark grids have been designed to assess students' work holistically. They consist of band-based descriptors and indicative content.

Band-based descriptors: each band is made up of several descriptors for across the AO range; AO1–AO3, which when combined provide the quality of response that a student needs to demonstrate. Each band-based descriptor is worth varying marks.

The grids are broken down into bands, with each band having an associated descriptor indicating the performance at that band. You should determine the band before determining the mark.

Indicative content reflects content-related points that a student may make but is not an exhaustive list. Nor is it a model answer. Students may make all, 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 other appropriate response.

Application of extended response marking grids

When determining a band, you should use a bottom-up approach. If the response meets all the descriptors in the lowest band, you should move to the next one, and so on, until the response matches the band descriptor. Remember to look at the overall quality of the response and reward students positively, rather than focussing on small omissions. If the response covers aspects at different bands, you should use a best-fit approach at this stage and use the available marks within the band to credit the response appropriately.

When determining a mark, your decision should be based on the quality of the response in relation to the descriptors. You must also consider the relative weightings of the assessment objectives, so as not to over/under credit a response. Standardisation materials, marked by the chief examiner, will help you with determining a mark. You will be able to use exemplar student responses to compare to live responses, to decide if it is the same, better, or worse.

You are reminded that the indicative content provided under the marking grid is there as a guide, and therefore you must credit other suitable responses a student may produce. It is not a requirement either that students must cover all the indicative content to be awarded full marks.

Assessment objectives

This assessment requires students to:

- AO1: Demonstrate knowledge and understanding of the digital business services sector
- AO2: Apply knowledge and understanding of the digital business services sector to different situations and contexts
- AO3: Analyse and evaluate information and issues related to the digital business services sector

The weightings of each assessment objective can be found in the qualification specification.

Section A: Culture and context

**Total for this section: [40 marks]
[plus 3 marks for QWC]**

1	Give one way that autonomous operation leads to dehumanisation of service. [1 mark]
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AO1 = 1 mark

Award **one** mark for a way that autonomous operation dehumanises service. For example:

- loss of jobs (1)
- loss of human empathy in decision making (1).

Accept any other suitable response.

2	State two types of private organisation. [2 marks]
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AO1 = 2 marks

Award **one** mark for each type of private organisation, up to a maximum of **two** marks. For example:

- SME (small or medium-sized enterprise) (1)
- large enterprise (1)
- NGO (non-governmental organisation) (1)

3	<p>Lott UK is a medium-sized business with a long established workforce. The teams use a collaborative approach to complete projects. Lott UK is looking into migrating its workforce so that all office-based staff will work from home full time. The business is assessing communication access for staff.</p> <p>Discuss the factors that Lott UK will need to consider to reduce the possibility of potential isolation for its workers.</p> <p>[3 marks]</p>
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AO3 = 3 marks

Award **one** (AO3) mark for each discussion point of the factors Lott UK will need to consider to reduce the possibility of potential isolation for its workers, up to a maximum of **three** marks. For example:

- workers will need time to transition to working from home as they are used to being in an established team in an office environment (1). The company will need to ensure that they

support staff while they settle into their new routine and the mindset of working from home by making sure that there is a clear communication strategy that is understood by all staff (1), and that workers are confident in the use of the remote communication platforms to reduce the possibility of potential isolation (1)

- the business will need to consider that workers must have the appropriate resources made available to them so that they can continue to do their job without difficulty and maintain collaborative working practices (1). They should ensure that staff have the confidence to use the kit and the platforms in a remote environment (1). Staff should be encouraged to access support from other members of the team if they do experience any problems (1)
- the business should consider if it has the infrastructure to support connectivity where workers are in a more remote location (1), and that it can provide alternatives to using the workers' home internet where needed (1). This will ensure that all staff can work collaboratively and connect with each other, no matter where they are based (1).

4 Landingham Services is a consultancy business that advises office staff on how to use digital technology safely. The business specialises in physical problems. A client has a large number of staff who suffer from headaches and back pain as a result of the way they operate their computers. a) Identify two mitigation techniques that can be used to reduce the physical problems associated with using computer screens for extended periods of time. [2 marks] b) Explain why one of the identified mitigation techniques would be recommended by Landingham Services. [2 marks]

AO1 = 2 marks

AO2 = 2 marks

a) Award **one** (AO1) mark for each identified mitigation technique, up to a maximum of **two** marks. For example:

- DSE set up support (for example: footrest, back support, screen filter)
- regulating the use of technology (1)

Accept any other suitable response.

b) Award **one** (AO2) mark for each explanation point of why the mitigation technique would be recommended by Landingham Services, up to a maximum of **two** marks. For example:

- a footrest would provide the office staff support for a better posture (1), reducing the risk of back pain (1)

- screen filters could be fitted to monitors to modify the type of light emitted (1) leading to fewer headaches as staff are not affected by certain types of light frequency (1)
- regulation of use would ensure office staff take appropriate breaks (1), reducing the risk of effects on their health such as sleep problems or mental health impacts (1)

Accept any other suitable response.

5	<p>Let by T is a digital business that rents houses and flats to tenants. The business works with homeowners and finds suitable tenants to occupy their properties for fixed-term contracts.</p> <p>The business aims to maximise profits for its homeowners. The business is a partnership and has been owned by the same family for over 50 years. All funding for the business comes from retained profit.</p> <p>a) Identify two external stakeholders.</p> <p style="text-align: right;">[2 marks]</p> <p>b) Describe how one of these stakeholders may be affected by the activities of this business.</p> <p style="text-align: right;">[2 marks]</p>
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AO1 = 2 marks

AO2 = 2 marks

a) Award **one** (AO1) mark for each identified external stakeholder, up to a maximum of **two** marks. For example:

- Customers/tenants (1)
- homeowners / property owners (1)
- competitors (1)
- local government (1).

Accept any other suitable response.

b) Award **one** (AO2) mark for each point in the context of Let by T, up to a maximum of **two** marks. For example:

- customers/tenants will want to have a reasonable price for renting a home (1) which may mean they are unable to pay higher rents as the business wants to maximise profits (1)
- homeowners / property owners will want to have their properties occupied and bringing in an income all year round (1) to ensure they are getting the best return on their investments and not having houses sitting empty, losing potential earnings (1)
- competitors are likely to have lower profits as a result of the businesses operations (1) as the business has been established for a long time and is likely to have a good reputation, attracting customers (1)

- local governments are likely to want homes to be occupied so they earn tax revenue (1), meaning that they will generate higher tax revenues when the business is running well (1).

Accept any other suitable response.

6	<p>Butterfield Ltd supplies dairy products to supermarkets, many of which have demanded lower prices to pass on to their customers.</p> <p>The business has been affected by an increase in interest rates and a long period of recession in the last year. The business has recently borrowed a large amount of money to invest in new machinery.</p> <p>Explain the impact of two economic factors that are currently affecting Butterfield Ltd.</p> <p>[4 marks]</p>
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AO2 = 4 marks

Award **one** mark for each explanation point made for each economic factor that currently affects Butterfield Ltd, up to a maximum of **four** marks. For example:

- the business will experience higher costs of repaying its loans due to rising interest rates (1) which will have a significant impact on the finances of the business as it has recently taken out a large loan (1)
- the business will have lost income as a result of a period of recession (1) which will lead to pressure on profits as supermarkets seek lower prices to pass on to their customers (1)
- Butterfield will be affected by increasing productions costs (1) as the price of raw materials and electricity have risen (1).

Accept any other suitable response.

7	<p>A chocolate manufacturer would like to reduce the variety available in its seasonal gift box and is planning to conduct market research to gain customer feedback to help inform the decision of which chocolate to remove from the gift box. A data technician will analyse the customer feedback and prepare a report for the chocolate manufacturer.</p> <p>Explain how both quantitative and qualitative market research could be used by the data technician in their report.</p> <p>[4 marks]</p>
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AO2 = 4 marks

Award **one** (AO2) mark for each explanation point of how quantitative market research could be used by the chocolate manufacturer to inform this decision, up to a maximum of **two** marks. For example:

- to create a survey with a numbered scale attached to each chocolate type to measure customer satisfaction (1) in order to identify which ones are most popular / least popular (1).

Award **one** (AO2) mark for each explanation point of how qualitative market research could be used by the chocolate manufacturer to inform this decision, up to a maximum of **two** marks. For example:

- to engage with the customer by means of, for example, a questionnaire or interview to gather their thoughts and opinions on the chocolates (1) in order to identify why customers, have the preferences / dislikes that they do (1).

Accept any other suitable response.

8	<p>CJJ Co have recently digitalised operations in their warehouse and factory. They have introduced an app that allows staff to share information about quality issues and managers can now access detailed database reports on production statistics.</p> <p>Many systems are now automated. For example, daily reports on production errors and delivery times are emailed to staff. Managers now work from home but can access the control systems for the factory from their laptops.</p> <p>Assess the value that digitalisation brings to the operations function of CJJ Co.</p> <p style="text-align: right;">[3 marks]</p>
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AO3 = 3 marks

Award **one** (AO3) mark for each assessment point, up to a maximum of **three** marks. For example:

- the business will have enhanced communication channels as the app allows the reporting of quality issues (1) which will mean that the business is able to rapidly gather intelligence on any problems as they arise (1), allowing swifter interventions in response to production errors (1)
- internal reporting systems are automated, leading to important management information being emailed to managers automatically (1), saving time/reducing costs because administrative staff do not have to manually run reports and email them to managers (1) enabling administrative staff to address other issues/work (1)

- managers can control machinery from their laptops using a web portal, allowing greater flexibility (1); meaning that higher calibre/more diverse candidates could be attracted to these roles (1) and this may result in more ideas/development of the company due to the diverse workforce (1)

Accept any other suitable response.

- 9 D-Moss Dev is a small software development company that focuses on applications for clients in the farming industry. The business creates systems to control the production of tractors and other equipment and are regularly researching new uses for their apps. They also develop money management systems that allow farmers to keep track of money spent and earned.**
- Discuss ways that digitalisation may affect the processes used by D-Moss Dev.**
[3marks]

AO3 = 3 marks

Award **one** (AO3) mark for each discussion point of the ways that digitalisation will affect the processes used by D-Moss Dev, up to a maximum of **three** marks. For example:

- staff at D-Moss Dev may have to change their coding methods to respond to new types of manufacturing equipment in order to get the best out of them; leading to staff having to change their workflow in order to adapt to the requirements of coding for a new type of hardware system (1). As the financial needs of their clients change, programmers may have to change the data sources that their money management apps use; in order to pull data from the correct source such as the funding systems used to pay subsidies (1). Research may lead to new innovations being discovered that the managers of D-Moss Dev believe they can exploit profitably; leading to new teams being formed and having to establish new workflows in order to adapt to the new opportunities (1).

Accept any other suitable response.

- 10 Sherborne Seaborne is a shipping company that is planning to digitalise its staff management systems. The company has operated in the UK for 50 years and many staff are very reluctant to adapt to the new system being proposed. The marketing department is particularly concerned about the impact of the changes on workload.**
- The management team is preparing a plan to implement their new systems. A survey shows that staff do not understand the proposed changes or why they have been proposed.**
- Discuss the technical change management preparation and planning that should be carried out by Sherborne Seaborne in order to successfully implement their new systems.**

[12 marks, plus 3 for QWC]

AO1 = 4 marks

AO2 = 4 marks

AO3 = 4 marks

Band	Mark	Descriptor
4	10 – 12	<p>AO3 – Discussion of the ways that Sherborne Seaborne can prepare and plan to implement new systems which is comprehensive, effective, relevant and shows detailed understanding and logical and coherent chains of reasoning throughout.</p> <p>AO2 Applied all relevant knowledge of preparation and planning to the context of Sherborne Seaborne, showing a detailed understanding.</p> <p>AO1 A wide range of relevant knowledge and understanding of the factors which influence the preparation and planning which is accurate and detailed. A wide range of appropriate technical terms are used.</p> <p>The answer demonstrates comprehensive breadth and/or depth of understanding.</p>
3	7 – 9	<p>AO3 – Discussion of the ways that Sherborne Seaborne can prepare and plan to implement new systems which is in most parts effective, mostly relevant and shows mostly logical chains of reasoning.</p> <p>AO2 Applied most relevant knowledge of preparation and planning to the context of Sherborne Seaborne, showing some functional understanding.</p> <p>AO1 A wide range of relevant knowledge and understanding of the factors which influence preparation and planning which is in most parts clear and mostly accurate although on occasion may lose focus.</p>

		The answer demonstrates reasonable breadth and/or depth of understanding with occasional inaccuracies.
2	4 – 6	<p>AO3 – Discussion of the ways Sherborne Seaborne can prepare and plan to implement new systems which is in some parts effective and of some relevance, with some understanding and reasoning taking the form of generic statements with some development.</p> <p>AO2 Applied all relevant knowledge of preparation and planning to the context of Sherborne Seaborne and may show a lack of functional understanding.</p> <p>AO1 Knowledge and understanding of the factors which influence preparation and planning shows some, but limited accuracy, focus and relevance.</p> <p>The answer is basic and shows limited breadth and/or depth of understanding, with inaccuracies and omissions.</p>
1	1 - 3	<p>AO3 – Discussion of the ways that Sherborne Seaborne can prepare and plan to implement new systems which is minimal and very limited in effectiveness and relevance.</p> <p>AO2 Applied general knowledge showing a limited understanding of how preparation and planning.</p> <p>AO1 Knowledge and understanding of the factors which influence preparation and planning shows very minimal accuracy, focus and relevance.</p> <p>The answer has isolated points, showing very minimal breadth and/or depth of understanding, with significant inaccuracies and omissions.</p>
	0	No creditworthy material

Quality of written communication (QWC) = 3 marks

Mark	Descriptor
3	The answer is clearly expressed and well-structured. The rules of grammar are used with effective control of meaning overall. A wide range of appropriate technical terms is used effectively.
2	The answer is generally clearly expressed and sufficiently structured. The rules of grammar are used with general control of meaning overall. A good range of appropriate technical terms is used effectively.

1	The answer lacks some clarity and is generally poorly structured. The rules of grammar are used with some control of meaning and any errors do not significantly hinder the overall meaning. A limited range of appropriate technical terms is used effectively.
0	There is no answer written or none of the material presented is creditworthy. Or The answer does not reach the threshold performance level. The answer is fragmented and unstructured. The errors in grammar severely hinder the overall meaning.

Indicative content

Examiners are reminded that the indicative content reflects content-related points that a student may make but is not an exhaustive list, nor is it a model answer. Students may make all, 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 other appropriate response.

AO1: The student will evidence knowledge and understanding of the factors which influence the effectiveness of digitalisation supports planning:

- effectively communicating the rationale for the change
- communicating the benefits of the change
- getting 'buy in' from all areas of the business who the change effects
- innovations within digital technology

AO2: The student will apply general knowledge showing a limited understanding of how digitalisation supports planning that may include:

- staff do not understand the change or the need for it, so effective communication will help to address this problem
- staff may not understand the benefits of the change if it has not been communicated to them
- some teams have not bought into the change which may mean they have an influence on members of other teams – for example Marketing may influence operations or finance
- staff regularly do research which may lead to innovation

AO3: The student will discuss the ways that Sherborne Seaborne can prepare and plan to implement new systems that may include:

- The marketing team are concerned about workload so the business should spend time explaining how the new system will reduce the workload
- The business should hold a meeting with all staff to ensure they all understand what the change will involve first-hand and can ask any questions to put their mind at rest
- Sherborne Seaborne should offer free training sessions to all staff so that they can learn how to use the new systems, so they are prepared for the change
- the business has been established for a long time and systems are likely to be well established and staff may be resistant to change so they should keep their staff informed so they can see the benefits of the change

Accept any other suitable response.

Section B: Diversity and inclusion and digital environments

Total for this section:
[37 marks]
[plus 3 marks for QWC]

11 Give one piece of hardware used in a computer network.

[1 mark]

AO1 = 1 mark

Award **one** mark for a piece of hardware given. For example:

- router (1)
- switch (1)
- interface card (1)
- server (1).

Accept any other suitable response.

12 Identify one method of storing large quantities of digital photographs.

[1 mark]

AO1 = 1 mark

Award **one** mark for a method of storage given. For example:

- CD/DVD(1)
- hard disk drive (HDD) (1)
- cloud storage (1)

Accept any other suitable response.

13 Identify one approach to addressing demographic imbalance in the digital sector.

[1 mark]

AO1 = 1 mark

Award one mark for an identified approach to addressing demographic imbalance in the digital sector. For example:

- increasing cultural awareness of different types of bias (1)
- application of digital inclusion principles (1)
- inclusion by design of digital technologies and systems (1)

- government initiatives (1)
- inclusive recruitment (1).

Accept any other suitable response.

14 To-By is an educational publishing business. The business uses virtual machines to work with writers and editors who live and work in different countries. They regularly need to move large amounts of data around the world.

In meetings, staff often have to work together on a single document, sharing screens. The business has built a brand image as environmentally friendly and prides itself on sticking to this reputation.

a) Identify one benefit of using virtual machines to the business.

[1 mark]

b) Explain how the identified benefit of using virtual machines will impact on To-By.

[2 marks]

AO1 = 1 mark

AO2 = 2 marks

a) Award **one** (AO1) mark for a benefit to To-By. For example:

- more cost effective in larger digital environments (1)
- easier to manage and maintain larger environments (1)
- environmental (for example lower carbon footprint) (1)
- disaster recovery options (1)
- efficient testing environments (1)
- education and training platform (1)
- resilient (1).

Accept any other suitable response.

b) Award **one** (AO2) mark for each explanation point of the impact of To-By using virtual machines, up to a maximum of **two** marks. For example:

- the business is large, operating over multiple countries meaning that virtual machines would be more cost effective than a physical infrastructure (1) due to the lack of a need of fixed machines and servers which are more expensive to set up and maintain (1)
- the business operates flexibly over multiple countries which would make a normal infrastructure difficult to maintain (1). However, a series of virtual machines could be

hosted in one place and maintained by a dedicated team making it easier to manage the systems needed by the business (1)

- the business has a reputation for being environmentally friendly which it can maintain by using virtual machines (1). This type of infrastructure will require fewer physical machines and less hardware, leading to less pollution, which will help the company maintain that reputation (1)
- a virtual machine can be backed up onto a hard drive and quickly restored, leaving the business with more disaster recovery options (1). This means that software issues on individual users' PCs can be fixed remotely, without impacting on the individual's productivity (1).

Accept any other suitable response.

15	<p>Booj is a communications company that trains technical staff for digital businesses. The management are producing a staff guide to network protocols. Their new client wants staff to understand which email clients can be used by staff for different tasks.</p> <p>Describe two email protocols that could be included in Booj's guide.</p> <p style="text-align: right;">[2 marks]</p>
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AO2 = 2 marks

Award **one** (AO2) mark for each description of an email protocol which is relevant to Booj's guide, to a maximum of **two** marks. For example:

- simple mail transfer protocol (SMTP) is used to send email messages transferring binary files using the MIME format to and from Booj staff who wish to share information in a text based format (1)
- internet message access protocol (IMAP) stores emails on a server but allowing messages to be accessed as if they were stored locally (1)
- post office protocol (POP3) allows the downloading of emails from a remote server belonging to Booj, for tasks such as sharing data with clients (1).

Accept any other suitable response.

16	<p>Noah has recently started a new job as a network engineer for a national esports team. The team have recently lost a number of high-profile tournaments due to a delay in gameplay.</p> <p>The team have been using a VPN but would like Noah to advise them whether they should stick with VPN or use WAN instead.</p> <p>Assess which option would be the most suitable network for Noah to use for the esports team.</p> <p style="text-align: right;">[3 marks]</p>
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AO3 = 3 marks

Award **one** mark for each assessment point of why WAN would be the most suitable network for Noah to use for the esports team, up to a maximum of **three** marks. For example:

- A VPN is suitable for the Esports team as VPN's will give the team a stable internet connection which will solve the problem which caused them to lose the previous tournaments (1). A gaming VPN could reduce issues for Noah such as a high ping and latency which means messages between the PC's takes longer as the VPN would be well maintained and updated reducing the chances of the data being slow (1) and this could increase their chances of winning (1)
- A WAN network would be the best network for Noah to use for the esports team. A WAN will also enable the esports team to take part in tournaments remotely (1) rather than requiring all the teams to physically travel to the same location in order to play in the tournament. This will enable them to take part in more tournaments and as they are directly connected to the network, rather than going through a VPN (1) which could slow down the data transmission. This should reduce the chances of them losing due to technical issues (1) WAN's are faster due to more direct internet traffic routing to wherever the tournament is being played as opposed to via wherever the VPN breaks out as well as the privacy overhead (1)

Accept any other suitable response.

17	<p>Felenders is a manufacturer of musical instruments. The management of the business have implemented a more resilient digital environment after a number of security problems. Hackers had attempted to penetrate systems to steal designs and staff data had been stolen by an unhappy employee.</p> <p>a) Identify two benefits of a resilient digital environment. [2 marks]</p> <p>b) Explain how one of these benefits could help to protect Felenders against the security problems that they have faced. [2 marks]</p>
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AO1 = 2 marks

AO2 = 2 marks

a) Award **one** (AO1) mark for each identified benefit of a resilient digital environment, up to a maximum of **two** marks. For example:

- secure transfer of data (1)
- secure storage of data (1)
- reduced system vulnerabilities (1)
- reduced probability of targeted cyber attacks (1)
- Increased security (1)
- Increased reputation (1)
- less downtime (1).

Accept any other suitable response.

b) Award **one** (AO2) mark for each explanation point of how one of the identified benefits could help to protect Felenders, up to a maximum of **two** marks. For example:

- by implementing a secure transfer of data, data will be protected, for example, by encryption, which would prevent information being intercepted by anyone without the relevant permissions (1), reducing the risk of designs being stolen by hackers (1).
- secure storage of data means that unauthorised people will not be able to access sensitive information such as personnel data due to user permissions / physical access, (1), meaning that the business will have more control over which employees can access this sensitive information, reducing the risk of a data breach (1)
- Increased security (e.g Multifactor authentication) securing not just the username and password but also the device that they are using is a great additional layer of security (1) as hackers would need not just to compromise the users account but also the device that they are using. (1)

Accept any other suitable response.

18 Molges and Co is a law firm that represents clients in the digital sector. They have a diverse workforce, with staff of different religions, ages and genders. They are carrying out a review of their policies to ensure that they meet the Equality Act 2010.

Explain two ways in which Molges and Co can meet the obligations of the Equality Act 2010 with regards to flexible working hours and time off for staff.

[4 marks]

AO2 = 4 marks

Award **one** (AO2) mark for each explanation point per explanation, up to a maximum of **two** marks per explanation, for a maximum of **two** explanations. For example:

- the business should allow flexible working hours to accommodate religious beliefs (1), as workers may need time to pray during the working day (1)
- the business needs to ensure that any staff who are pregnant are allowed time off for medical appointments and maternity leave (1) without it impacting on their role or promotion opportunities (1).

Accept any other suitable response.

19 Byer Training produces training material for businesses in the retail sector. Staff at the business have a lot of creative ideas that have won awards for the company.

The business always has a large number of applications when it advertises jobs. Many staff are from diverse backgrounds and have always given the company good reviews on careers websites.

Assess the impacts of diversity and inclusion on Byer Training.

[3 marks]

AO3 = 3 marks

Award **one** (AO3) mark for each assessment point of the impact of diversity and inclusion on Byer Training, up to a maximum of **three** marks. For example:

- the diversity of Byer Training's workforce has provided the company with a creativity that will attract customers to its award-winning innovative products (1). The reputation of Byer Training means that it has a rich calibre of candidates to choose from when recruiting, meaning that it will continue to have a diverse and inclusive workforce (1) producing

authentic and inclusive products that will enable the company to maintain its creativity and innovation (1).

Accept any other suitable response.

20	<p>Souple Design is a business that creates illustrations for digital comics and books. The owners of Souple Designs are struggling to recruit new designers who have the digital illustration skills they need for the business.</p> <p>Souple Design have recently partnered with the local skills development hub to develop a free qualification for local people aimed at teaching them how to use a range of digital illustration programmes.</p> <p>Assess how the new qualification will enable Souple Design to be more digitally inclusive.</p>
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[3 marks]

AO3 = 3 marks

Award **one** mark for each assessment point on how the new qualification will help Souple Design be more digitally inclusive, up to a maximum of **three** marks. For example:

- Developing the new qualification will enable Souple Design to be more digitally inclusive as they will be able to support the local community to develop a range of new digital skills (1) which will mean that more people will have in demand digital skills (1) and so will increase the chance of them having better career (1)
- By creating this new qualification Souple Designs will ensure that they reduce their recruitment issues (1) as the free qualification is designed to develop the specific skills that Souple Designs needs (1) which will mean they have the staff they need and depending on the community they work with they can also increase diversity and inclusion in the workplace (1)

Accept any other suitable response.

21	<p>Zafar is a fashion brand which manufactures clothes to order for customers. The business runs a web portal that allows customers to design their own clothes. They are then made to order based on images and measurements provided by customers.</p> <p>The business holds a great deal of confidential information such as the personal details of customers as well as unique software for turning customer designs into finished products. Zafar already use a lot of online software packages and are considering moving their IT infrastructure to cloud computing.</p>
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Analyse the benefits to Zafar of creating a resilient digital environment by introducing cloud computing to the business.

[12 marks plus 3 marks for QWC]

AO1 = 4 marks

AO2 = 4 marks

AO3 = 4 marks

Band	Mark	Descriptor
4	10–12	<p>AO3 Analysis of the creation of a resilient digital environment at Zafar is comprehensive, effective, and relevant, showing detailed understanding and logical and coherent chains of reasoning throughout. Given conclusions are informed and fully supported with rational and balanced judgements.</p> <p>AO2 Applied all relevant knowledge of creation of a resilient digital environment at Zafar to the context and shows a detailed functional understanding of benefits and drawbacks.</p> <p>AO1 A wide range of relevant knowledge and understanding of the creation of a resilient digital environment at Zafar and how they link to one another, which is accurate and detailed.</p> <p>The answer demonstrates comprehensive breadth and/or depth of understanding.</p>
3	7–9	<p>AO3 Analysis of the creation of a resilient digital environment at Zafar is in most parts effective and mostly relevant, showing mostly logical and coherent chains of reasoning. Given conclusions supported by judgements that consider most of the relevant arguments.</p> <p>AO2 Applied mostly relevant knowledge of creation of a resilient digital environment at Zafar to the context, showing some functional understanding of benefits and drawbacks.</p> <p>AO1 Knowledge and understanding of the organisational benefits of digital resilience is in most parts clear and mostly accurate, although on occasion may lose focus.</p> <p>The answer demonstrates reasonable breadth and/or depth of understanding, with occasional inaccuracies and/or omissions.</p>

2	4–6	<p>AO3 Analysis of the creation of a resilient digital environment at Zafar is in some parts effective and of some relevance, with some understanding and reasoning taking the form of generic statements with some development. Given brief conclusions supported by judgements that consider only the most basic arguments.</p> <p>AO2 Applied some, but limited, knowledge of creation of a resilient digital environment at Helmer solutions to the context and may show a lack of functional understanding of benefits and drawbacks.</p> <p>AO1 Knowledge and understanding of creation of a resilient digital environment at Zafar show some but limited accuracy, focus and relevance.</p> <p>The answer is basic and shows limited breadth and/or depth of understanding, with inaccuracies and omissions.</p>
1	1–3	<p>AO3 Analysis of the creation of a resilient digital environment at Zafar is minimal and very limited in effectiveness and relevance. Given tenuous conclusions that are unsupported and show little relevance to the question aims.</p> <p>AO2 Applied general knowledge and/or general assertions about the creation of a resilient digital environment at Zafar with little relevance to the context.</p> <p>AO1 Knowledge and understanding of the creation of a resilient digital environment at Zafar show very minimal accuracy, focus and relevance.</p> <p>The answer has isolated points, showing very minimal breadth and/or depth of understanding, with significant inaccuracies and omissions.</p>
	0	No creditworthy material

Quality of written communication (QWC) = 3 marks

Mark	Descriptor
3	The answer is clearly expressed and well-structured. The rules of grammar are used with effective control of meaning overall. A wide range of appropriate technical terms is used effectively.
2	The answer is generally clearly expressed and sufficiently structured. The rules of grammar are used with general control of meaning overall. A good range of appropriate technical terms is used effectively.

1	The answer lacks some clarity and is generally poorly structured. The rules of grammar are used with some control of meaning and any errors do not significantly hinder the overall meaning. A limited range of appropriate technical terms is used effectively.
0	There is no answer written or none of the material presented is creditworthy. Or The answer does not reach the threshold performance level. The answer is fragmented and unstructured. The errors in grammar severely hinder the overall meaning.

Indicative Content

Examiners are reminded that the indicative content reflects content-related points that a student may make but is not an exhaustive list, nor is it a model answer. Students may make all, 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 other appropriate response

AO1: The student will evidence knowledge and understanding of the creation of a resilient digital environment at Zafar that may include:

- increased security
- increased reputation and profile
- lower downtime of services
- reduced probability of targeted cyber attacks
- Lower costs as they pay one fee for the cloud computing
- More flexible storage so can grow with the business
- Can purchase extra services as needed
- No maintenance or upgrade costs

AO2: The student will apply general knowledge and/or general assertions about the creation of a resilient digital environment using cloud computing at Zafar that may include:

- security is vital to comply with laws, GDPR for example, as the company handles sensitive data such as customers' body size and the cloud computing business would help ensure this is secure
- a good reputation is important for a business like this, as customers may not be willing to try an unfamiliar technology such as on demand self-designed clothing if the business has a poor reputation and by working with a well known cloud computing company may give customers greater confidence
- fashion is a fast-moving market and downtime would be problematic as customers may move to another firm if its service is down but with the cloud computing there is built in redundancies so downtime is unlikely

- targeted cyber attacks could lead to disruption to customer experience which would undermine brand value but the cloud computing company would secure the data so there is less chance of issues.

AO3: The student will analyse the creation of a resilient digital environment using cloud computing at Zafar that may include:

- increased security is vital because companies that have a reputation for taking poor care of data will lose customers to companies that are seen to take better care with confidential or sensitive data - Zafar can buy in extra security from their cloud computing provider to ensure that their data is always secure.
- the reputation of a business in the fashion market is important: customers will not use a company that has a reputation for poor quality or for poor service as the competition is so intense and using cloud computing means there is unlikely to be any downtime as there are multiple servers that can ensure the site remains available to customers
- stopping the site from going down will help the business to continue to earn revenue and make profit, as it will not miss out on any orders due to people being unable to access the site - ensuring the site remains up would be possible with cloud computing as Zafar can pay the cloud computing provider extra for services to ensure that their website is a priority if anything happens
- preventing targeted cyber attacks would maintain profitability and ensure that the business is compliant with legal obligations, such as those under contract law and GDPR legislation, and whilst Zafar will have their own internal processes, the cloud computing company will have more stringent security which will ensure that cyber attacks don't happen.

Accept any other suitable response.

Section C: Learning and planning

Total for this section: [23 marks]

22 Give two principles of project planning.

[2 marks]

AO1 = 2 marks

Award **one** (AO1) mark for each principle, up to a maximum of **two** marks. For example:

- project scope (1)
- expected outcomes (1)
- stakeholder map (1)
- timeline and deadlines (1)
- linked to organisational strategic objectives (1)
- identification of project aims and objectives (1)
- resource requirements (1)
- budgeting (1)
- cost-benefit analysis (1)
- project lifecycle (1)
- risk and issues management (1)
- quality management(1).

Accept any other suitable response

23 Describe two sources of information that can be accessed without using a computer.

[2 marks]

AO1 = 2 marks

Award **one** (AO1) mark for each description of an appropriate source of information, up to a maximum of **two** marks. For example:

- textbooks – books that contain content on a particular subject, with the intent of explaining it (1)
- white papers – papers published by government outlining their perspective/proposals on issues/policies (1)
- supplier literature – such as manuals that explain how a piece of machinery work (1)
- conferences – where you visit a venue to hear people speak and chat to experts (1)

Accept any other suitable response.

24	<p>Yassin is an online homeware company that uses digital technology to manufacture a range of personalised products.</p> <p>Customers place an order with Yassin which is then manufactured and packaged before despatch.</p> <p>Yassin has seen an increase in customer orders, and the directors want to streamline the order process to maximise customer satisfaction.</p> <p>Explain one way that critical path analysis could be used by Yassin's directors.</p> <p style="text-align: right;">[2 marks]</p>
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AO2 = 2 marks

Award **one** mark for each explanation point of a way that critical path analysis could be used by Yassin's directors, up to a maximum of **two** marks. For example:

- concurrent tasks can be identified, meaning that directors of Yassin can do tasks such as ordering stock at the same time as non-dependent tasks, such as creating the designs (1). This will lead to greater efficiency in the process and inform a better use of resource (1).
- critical path analysis could be used to identify the key tasks required to produce each personalised product, meaning that the directors of Yassin can identify the shortest time needed to fulfil an order (1). This will mean that processes can be developed to streamline production and to give customers an accurate estimated delivery date (1).

Accept any other suitable response.

25 Safia is a designer for a digital business. She is new to the industry and wants to develop and grow to take on more challenging roles that would include aspects of team leadership.

Safia's current professional development plan is based on Gibbs' learning cycle. She is reading blogs regularly and watching online video tutorials. She has also signed up to a massive open online course (MOOC).

Explain how Safia could use the analysis stage of Gibbs' reflective cycle to continue her professional development.

[2 marks]

AO2 = 2 marks

Award **one** mark for an explanation point of how Safia could use the analysis stage of Gibbs' reflective cycle to continue her professional development. For example:

- the analysis stage would allow Safia to understand what helps her to learn most efficiently and to identify the methods of past learning that have been the most beneficial for her, for example by participating in structured/guided lessons focused on team leadership within MOOCs (1) This will mean that she could identify any further learning that would most suit her specific needs, to continue her professional development towards a team leadership role (1).

Accept any other suitable response.

26 New Town City Council are preparing to redevelop a large area of land in the city centre into a leisure complex. The project managers have decided to use a drone to support the design phase of the project.

Explain one reason why the project managers may have chosen to use a drone for this project.

[2 marks]

AO2 = 2 marks

Award **one** (AO2) mark for each explanation point of why the project managers have chosen to use to use a drone for this project, up to a maximum of **two** marks. For example:

- a drone would support the design phase of the project as project managers would be able to survey the entire area (1) by collecting photographs / information about the area from an aerial perspective, which may not be possible at ground level due to the city centre location / surrounding buildings (1).

Accept any other suitable response.

27 AILS is a highly respected entertainment and media law firm known for high-quality service. They advise international clients in the streaming media sector, which is a highly regulated area with new laws emerging and regulations constantly evolving.

Assess the impact on AILS of staff maintaining their professional development.

[3 marks]

AO3 = 3 marks

Award **one** mark for each assessment point, up to a maximum of **three** marks. For example:

- in a fast-moving sector where rules change regularly, staff need to keep their knowledge up to date to ensure that they remain experts in their field so that the reputation, quality and currency of the business is maintained (1). It is important that all staff at AILS are aware of any updates to industry standards and regulations so that their advice to clients is specific to their needs (1). The high-profile reputation of the business means that the implications of getting their advice wrong is likely to be damaging, both financially and reputationally (1).

Accept any other suitable response.

28 A big cat sanctuary needs to create a large outdoor enclosure for their panthers. They have a limited budget, and the panthers are due to arrive in only two months. This is the first time that they have worked on such a large new project, and they are keen to ensure that it is a success.

a) Identify two consequences of ineffective project planning.

[2 marks]

b) Explain how one of the identified consequences could affect the success of the panther project.

[2 marks]

AO1 = 2 marks

AO2 = 2 marks

a) Award **one** (AO1) mark for each identified consequence, up to a maximum of **two** marks. For example:

- under resourcing (1)
- escalating costs (1)
- exceeding timeframes (1).

b) Award **one** (AO2) mark for each explanation point of how the consequence could affect the panther project, up to a maximum of **two** marks. For example:

- as they have a limited time of only two months, they will need to demonstrate effective project planning to ensure the enclosure is completed within the timeframe (1) as not exceed / run over as the animals are arriving and need to be housed safely (1)
- a limited budget can often lead to a project being under resourced (staff or equipment), the enclosure may not be finished on time/to an acceptable/safe standard (1) as the project could run out of the materials which are needed to safely finish the enclosure (1)
- they need to work within a tight budget for the panther enclosure or they could end up with escalating costs as they don't have reserves available to spend on additional / unexpected materials and staffing costs (1) which would mean that the sanctuary would need to find more money to complete the enclosure or leave it unfinished, resulting in a failed project. (1)

Accept any other suitable response.

29 Our Adventures is a local community group that uses technology to help people with additional needs to travel the world from the comfort of their homes.

a) Identify one type of emerging technology.

[1 mark]

b) Explain how Our Adventures can use emerging technology to enable people with additional needs to travel the world from their homes.

[2 marks]

AO1 = 1

AO2 = 2

a) Award **one** (AO1) mark for identifying one emerging technology. For example:

- new mediums for storing information (for example, DNA data storage) (1)
- quantum computing/internet and quantum cryptography (1)
- IoT (1)
- artificial intelligence (1)
- XR (eXtended reality) (1) including:
 - augmented reality (AR) (1)
 - virtual reality (VR) (1).
 - mixed reality (MR) (1)
- application of 3D printing
- 5G(1)
- drones (1)

b) Award **one** (AO2) mark for each explanation point of how emerging technology would enable people with additional needs to travel the world from their homes, up to a maximum of **two** marks. For example:

- VR headsets allow the users to explore virtual worlds through an immersive experience by wearing the goggles that are connected to a software application (1) so one of Our Adventures users could be standing on the top of Mount Everest whilst sitting on their sofa which their additional needs may not allow them to do physically/in person (1)
- Mixed reality would allow the users to carry out activities whilst at home (1) as they could use VR to see the environment and use an interactive device to complete actions, creating a sense of reality in a safe/familiar environment (1)

Accept any other suitable response.

30 Anky design agency are launching a new campaign for a government-funded client during an unstable economic time. The client has set a strict budget for completion of the work. Failing to meet the requirements of the budget could result in Anky losing future business.

Discuss the impact of effective budgeting on Anky design agency.

[3 marks]

AO3 = 3 marks

Award **one** (AO3) mark for each discussion point of an impact of effective budgeting on Anky design agency, up to a maximum of **three** marks. For example:

- Anky design agency must meet strict requirements so will need to create accurate forecasts in order to plan activities properly so that the requirements of the contract can be met, leading to less chance of penalties being applied (1). Financial contingency planning can be used by the design agency to ensure that adequate funding is in place, should the uncertain economy cause unexpected changes in costs. By setting aside a contingency budget, the business can ensure that they will be able to account for all expenditure even if there is an overspend. This means that the business is complying with the terms of the government grant (1). Budgeting should be based on documented assumptions so that analysts can understand the basis by which figures have been set so that precise targets for spending can be monitored, explained and analysed accurately (1).

Accept any other suitable response.

Assessment Objective Grid

Question	AO1	AO2	AO3	Total
Section A				
1	1*			1
2	2*			2
3			3	3
4	2	2		4
5	2	2		4
6		4		4
7		4		4
8			3	3
9			3	3
10	4	4	4	12 + 3
Section B				
11	1*			1
12	1			1
13	1			1
14	1	2		3
15		2		2
16			3	3
17	2	2		4
18		4		4
19			3	3
20			3	3
21	4	4	4	12 + 3
Section C				
22	2*			2
23	2*			2
24		2		2
25		2		2
26		2		2
27			3	3
28	2	2		4
29	1	2		3
30			3	3
Total	28	40	32	106

Kil*				
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