T Level Technical Qualification in Digital Business Services

Core knowledge and understanding

Paper A

Mark scheme

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 objectives (AOs) 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 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 levels-based descriptors and indicative content.

Band-based descriptors: Each band is made up of several descriptors for across the AO range – AO1 to 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 level, you should move to the next one, and so on, until the response matches the level 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 AO can be found in the qualification specification.

Section A: Culture and context   **Total for this section: 40 marks, plus 3 marks for QWC**

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1   State one **threat to privacy that individuals face as a result of using digital technology.**

[1 mark]

AO1 = 1 mark

Award **one** mark for identifying a threat to privacy that individuals face as a result of using digital technology:

- leaving a digital footprint (1)
- digital surveillance (1)
- loss of control over their personal information (1).

Accept any other suitable response.

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2   J & M Mortgage Ltd is a mortgage brokers providing customers with mortgage advice, insurance and conveyancing services.

Whilst the business has an office that employees can work from, the majority of employees are homebased and rely on digital technology to manage their customers.

Describe one **impact increased reliance on digital technologies has on company culture at J&M Mortgage Ltd.**

[2 marks]

AO1 = 1 mark
AO2 = 1 mark

Award **one** mark for correctly identifying **one** impact that increased reliance has on businesses (AO1).

Award **one further** mark for **one** relevant development of an impact of reliance on digital technology (AO2).

- There may be a change in the way brokers communicate with each other and customers, such as email communication may take over face-to-face conversations, which could result in a loss of the personal touch between colleagues and customers (1). This lack of personal touch could lead to misunderstandings and potentially more errors (1).
- Communications could also take longer with the time taken to reply to emails, which may cost the company business (1) – mortgage rates could change during the delays caused by this slower method of communication between brokers and customers and even lead to offers being withdrawn (1).
- More staff working remotely are being monitored by their employers using tracking software, such as email monitoring, hours worked, location tracking and video surveillance

(1). This could lead to a lack of trust between staff and management and this could result in staff leaving and moving to work with the competitors (1).
- There is an increase in the reach and scale of the business, such as business resources. This will allow the business to access increases in trade, public services, technology and customers (1); they will be able to work with customers in more remote locations or anywhere in the UK as they no longer rely on people being able to get to the office (1).

Accept any other suitable response.

3	**Beautiful Tulips is based in the Netherlands. The managers of the business are planning to export flowers to the UK. They plan to set up a new distribution centre so flowers can be easily transported from the airport to the site.**
	The management team is not familiar with the British market and wants to understand factors such as interest rates, recession and UK inflation that could impact upon their business environment.
	Explain one **economic factor that could affect Beautiful Tulips.**
	[2 marks]

AO2 = 2 marks

Award **one** mark for each explanation point, up to a maximum of **two** marks.

- Interest rates can affect Beautiful Tulips as low interest rates would allow the business greater access to finance in order to fund their new venture in the UK (1), such as buying materials to build a new distribution centre (1).
- Exchange rates can affect the business by impacting the cost of supplies that are purchased from a different country (1), which will affect the prices the UK customers will pay for the flowers (1).
- A recession would suggest high unemployment (1), this means people would have less disposable income to spend on products such as flowers (1).
- If inflation is higher in the UK this could lead to a decrease in the demand for flowers grown in the UK (1), as they would be more expensive than flowers being imported from overseas (1).

Accept any other suitable response.

4	Bruno Bells Travel Ltd is an online travel agency. The company sells personalised holiday packages to a wide range of customers. Each employee who works remotely is supplied with office equipment such as headsets, workstations and screen filters.
	The company uses a number of mitigation techniques to support the wellbeing and productivity of their staff, and to prevent injuries.
	(a) Identify one **mitigation technique that Bruno Bells Travel could use to support their staff**. [1 mark]
	(b) Explain how this mitigation technique could reduce the negative impact of remote working on employee wellbeing or **productivity.** [2 marks]

AO1 = 1 mark
AO2 = 2 marks

(a) Award **one** mark for correctly identifying a mitigation technique to reduce the impact on the employees (AO1):

- take regular breaks (1)
- report misuse (1)
- fix broken equipment (1)
- ensure equipment that has been provided to work from home is suitable (1)
- block websites that could lead to issues (1).

(b) Award **one** mark for each explanation point, up to a maximum of **two** marks (AO2).

- Ensuring staff take regular screen breaks to protect their eye health (1) as they will be working on the screen while using the holiday booking systems for flights, hotels and travel arrangements (1).
- Ensuring staff have contact with other colleagues during the working day (1) so that it does not impact on their mental health as they are working alone all day and could feel isolated (1).
- Providing suitable display screen equipment (DSE) and workstations suitable for individual employee's needs (1) and ensuring equipment provided improves the quality of their work environment (1). Fixing broken equipment as soon as it is reported (1) will ensure that the remote workers aren't hurting themselves whilstdoing their jobs, which means they won't need to take time off work (1). The employer has the same responsibilities to their staff as they would if they were working in the office (1) so they should ensure that the equipment they provide remote working staff is right for the job they are doing (1).

Accept any other suitable response.

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5 **Jenky's is a family owned furniture manufacturer that has a long established workforce. A recent staff survey identified that many of the staff were unaware of the policies and procedures of the business.**

Some of the longer-term staff were unaware of recent changes to working practices and that new policies and codes of conduct would have implications on how they currently work. All staff have access to a range of digital technology throughout the workday, including the internet.

All staff will be trained as part of the company development plan to ensure full understanding of policies, procedures and codes of conduct.

(a) Outline two **different policies or codes of conduct that they may have at Jenky's.**

[2 marks]

(b) Describe the purpose of one **of the types of policy or code of conduct for Jenky's employees and its customers.**

[2 marks]

AO1 = 2 marks
AO2 = 2 marks

(a) Award **one** mark for each outlined policy, up to a maximum of **two** marks (AO1).

- What employees are expected to do in their jobs / standard working practices (1).
- Internet and social media use policies (1).
- What data needs to be kept confidential and how it is to be stored and disposed of (1).
- Who is allowed to access the different types and levels of data and how it can be used (1).
- How the business wants its brand to be seen by others (1).
- All staff are expected to follow the code of business conduct (COBC) by acting in a professional, ethnical and honest way (1).

(b) Award **one** mark for describing the purposes of individual policy or code of conduct, up to a maximum of **two** marks (AO2).

- Standard working practices cover the health and safety issues faced by staff when doing their jobs to ensure the safe use of the tools used to make the furniture (1), and Jenky's and its employees have a legal responsibility to keep themselves and others safe in the workplace (1). This code is also used so that employees know how to carry out their tasks in the way that the company wants it done (1).
- Using the internet for personal use, such as using social media, should be restricted to work breaks and only on personal devices, as failure to comply can lead to disciplinary action (1) – staff posting pictures of themselves at work and of the business and its operations will need to be tightly controlled and not damage the reputation of the business (1).

- Jenky's can use the code of conduct to make it clear to employees who can and can't access data within the business (1) so that only staff who need access to sensitive information like customer card details or delivery addresses will have access, and staff understand the consequences if they ignore this (1). Staff should be aware that personal data of clients and staff should only be used appropriately for business purposes and in an ethical way (1). The business and the employee have a duty to protect the data in a way that protects anonymity and confidentiality of that data and failure to do so may breach legislation (1).
- Following a code of business conduct means staff are representing the business to highest standards when dealing with Jenky's customers or clients, as failure to do so may result in damage to business reputation (1).

Accept any other suitable responses.

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6 **Juni's Pizzas are considering digitalisation of their operations. The business plan is to implement:**

- **a click and collect ordering service**
- **a loyalty card scheme that enables customers to collect points with each order they place, that they can then redeem against free menu items.**

(a) Identify two **key considerations Juni's Pizza will need to make to ensure this technical change is successful?**

(b) Describe how one **of these changes will improve efficiency.**

[4 marks]

AO1 = 2 marks
AO2 = 2 marks

(a) Award **one** mark for each consideration identified, up to a maximum of **two** marks (AO1).

- Implementation and use of new innovative technologies (1).
- Communicating with staff and customers about what they are changing and why (1).
- Communicating the benefits to customers and staff of the changes (1).
- Integration of new tools into the current digital ecosystem (1).
- Establishing how the new technology should be used (1).
- Fixing any issues which arise with the new systems (1).
- Facilitating the new processes (1).

(b) Award **one** further mark for each description point of how each technical change will improve efficiency, up to a maximum of **two** marks (AO2).

- Communicating with staff and customers to explain the change will ensure that they are implemented and used correctly (1), so that customers get their points and free food items on time with no errors (1).
- Customers will be able to submit their orders online which is faster than them having to come and visit the shop and wait (1), this will save time for staff managing payment face to face and allow them to spend more time preparing orders (1).
- Juni's Pizzas may need to buy new computer hardware for their shop (1) to enable them to manage the loyalty scheme data and to see which pizzas need delivering and which are being collected (1).

Accept any other suitable responses.

7	**Harley-Mays Consultancy is a cyber security business that specialises in providing analysts to clients wanting to outsource the protection of their digital assets. The analysts provide support in a range of areas including protecting consumer data, creating custom software coding and protecting sensitive information.**
	In more recent years, Harley-Mays have struggled to recruit in the UK as the applicants for these roles lack the level of skills and knowledge needed. Harley-Mays has decided to start their own training scheme to address these recruitment issues. The business has considered a range of economic issues that could affect the training scheme and have set money aside to cover this.
	Discuss two **other external factors that may influence the success of the training scheme in solving the recruitment issues at Harley-Mays.**
	[6 marks]

AO2 = 2 marks
AO3 = 4 marks

Award **one** mark for each external factor discussed, up to a maximum of **two** marks (AO2).

Award **one** mark for each discussion point on how the external factor may affect the success of the training scheme, up to a maximum of **two** marks per factor, a maximum of **four** marks in total (AO3).

- One external factor that would affect the success of the training programme is the UK government's digital skills policy – the government is keen to ensure that the UK population has the relevant digital skills and they are partially funding courses to achieve this (1) (AO2). This could mean competitors also start to offer training programmes that are similar to the one Harley-Mays are offering (1) (AO3), which could mean that they struggle to get trainees (1). However, this is also a benefit to Harley-Mays as it means they may be able to get government funding for the course and so they can take on more trainees than first planned (1) (AO3).
- Technology could be a factor that affects the success of the training programme. There are a lot of different software packages available, many of which do the same job (1) (AO2), so Harley-Mays will need to make sure they are training their trainees on the right ones (1) (AO3). If they aren't using the industry standard programmes then trainees won't want to train there as they won't get transferable skills (1) (AO3); however, if they do offer training in popular, well known software programmes this will increase the number of trainees that apply as the programme will be seen as important to trainees' careers (1) (AO3).
- Harley-Mays will need to consider the impact the economy will have on their training programme. Many people will not have the disposable income available to be able to have a period unpaid or on a low wage while completing the training programme (1) (AO2) as the cost of living is increasing, which may mean they don't get many trainees if the pay is low (1) (AO3); however, if Harley-Mays; pay well / make their training programme an official apprenticeship programme then more trainees will want to complete the programme (1)

(AO3) as they can afford to / know they are getting a formal qualification at the end of it (1) (AO3).

Accept any other suitable responses.

8	**Lambery's Bakery Ltd manufactures bread and bakery goods. At present the bakery only offers an instore order and collection, but they have noticed that there has been a decline in sales. They have also received a large number of requests from their customers about being able to order via the internet. Customers have said they would like to be able to pre order bread and baked goods for delivery to their homes and offices.**
	Lambery's are keen to increase their sales and meet their customers' needs and so would like to investigate the impact of digitalisation on their business.
	(a) Explain one **way in which digitalisation could increase the sales at Lambery's Bakery**
	[2 marks]
	(b) Excluding an increase in sales, discuss two **positive impacts that digitalisation could have on Lambery's Bakery.**
	[4 marks]

AO2 = 2 marks
AO3 = 4 marks

Award **one** mark for explaining how digitalisation could increase sales at Lambery's Bakery, up to a maximum of **two** marks (AO2).

- Digitalising the bakery will increase the bakery's sales as more customers will be able to find the bakery / know the bakery exists (1) as it will appear in search results drawing more customers to the bakery (1).
- Sales will increase as customers will be able to order online (1) and get it delivered to their address, which will mean that more people will use the bakery (1).
- Having an online presence will mean more people know about the bakery (1), which will mean more customers may visit the bakery, increasing their sales (1).

Award **one** mark for each discussion point, up to a maximum of **two** marks per impact, a total of **four** marks (AO3).

- At present, customers must visit the bakery to get their goods but if they have a website and offer delivery then anyone could get the bread delivered (1) which will increase the customer base of the bakery (1).
- Digitalising the business will enable the bakery to gather more information about their customers favourite baked goods via the website orders (1) this means they can use this data to help plan how many of each baked good to produce as customers are ordering in advance (1).

- Digitalising will enable the bakery to offer a wider range of baked goods (1) as they will know what cakes and breads their customers are ordering and so can plan the bakery's capacity to match this (1).
- Digitalising the bakery would mean the brand awareness of the bakery would increase (1) as more people would know about it and they may choose to use it (1).
- Digitising the business would enable the bakery to develop a unique selling point (USP) (1) as most bakers don't offer home or work delivery, so this would make Lambery's stand out from the competition (1).

Accept any other suitable response.

9	Beefly Books is a registered charity, which aspires to support education worldwide by donating books to children in developing countries.
	Beefly Books has a website that enables schools or colleges in any of the 152 recognised developing countries to receive books. The website enables schools and colleges to request books they would like to be supplied and to access digital versions of books where available. Their website must be accessible to meet the needs of all customers.
	The management at Beefly Books are aware that staff need to deal with a wide range of issues in a sensitive and professional manner. This includes areas such as international legislation, translation, values, and cultural differences in order to ensure that they meet the needs of all their international customers.
	Evaluate the factors that Beefly Books should consider in order to meet the needs of their customers.
	[12 marks, plus 3 for QWC]

AO1 = 4 marks
AO2 = 4 marks
AO3 = 4 marks

Band	Mark	Descriptor
4	10–12	AO3 **Well-reasoned** and **in-depth** evaluation of the factors that need to be considered when meeting customers and end user needs for Beefly Books is **comprehensive**, **effective**, **relevant** and shows **detailed understanding,** and **logical** and **coherent** chains of reasoning throughout. Given conclusions are informed and are fully supported with rational and balanced judgements.
		AO2 Applied all relevant knowledge of considerations, meeting customers and end user needs for the business relating to the context and shows a **detailed functional understanding** of the business.
		AO1 A wide range of relevant knowledge and understanding of the importance of considerations meeting customers and end users needs for the business which is **accurate and detailed**. A wide range of appropriate technical terms are used.
		The answer demonstrates comprehensive breadth and / or depth of understanding.
3	7–9	AO3 **Reasoned** and **mostly detailed** evaluation of the factors that need to be considered when meeting customers and end users needs for Beefly Books 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.

		AO2 Applied mostly relevant knowledge of the considerations, meeting customers and end user needs for the business relating to the context, showing **some functional understanding** of the business. AO1 Knowledge and understanding of the factors of considerations, meeting customers and end users for the business is in **most parts clear** and **mostly accurate**. The answer demonstrates **reasonable** breadth and / or depth of understanding, with **occasional** inaccuracies and / or omissions.
2	4–6	AO3 **Some reasoned but superficial** evaluation of the factors that need to be considered when meeting customers and end users needs for the business 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.** AO2 Applied some, but limited knowledge of, the considerations meeting customers and end users needs for the business relating to the business context and may **show a lack of functional** understanding. AO1 Knowledge and understanding of the factors of considerations, meeting customers and end users needs for the business to show some but **limited accuracy**, **focus and relevance.** The answer is **basic** and shows **limited** breadth and / or depth of understanding, **with** inaccuracies and omissions.
1	1–3	AO3 **Limited** and **superficial** evaluation of the factors that need to be considered when meeting customers and end user needs for Beefly Books is **minimal** and **very limited** in effectiveness and relevance. Given **tenuous** conclusions that are unsupported and show little relevance to the question aims. AO2 Applied general knowledge and / or general assertions about the considerations, meeting customers and end users needs for the business with **little relevance** to the context. AO1 Knowledge and understanding of the considerations, meeting customers and end users needs for the business shows **very minimal accuracy, focus** and **relevance**. The answer has **isolated** points, showing **very minimal** breath **and / or** depth of understanding, with **significant** inaccuracies and omissions.
	0	No creditable evidence.

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

AO1 Demonstrate knowledge and understanding of the factors that need to be considered, that may include:

- cultural awareness
- accessibility
- inclusivity
- adherence to policies and regulatory requirements
- technical knowledge
- end users.

AO2 Apply knowledge and understanding of the factors that Beefly Books needs to consider that may include:

- staff need to be aware of cultural differences to avoid any conflicts related to diversity
- the business must be inclusive to ensure that its web design is technically and functionally usable by people with a broad range of issues such as economic, geographic location, cultural, language and disabilities
- the business must ensure that websites work well with assistive technologies, this includes screen readers that read content aloud and screen magnifiers that enlarge content – voice recognition software used to input text is another form of assistive technology
- staff should be able to provide support, training and guidance on usability, functionality and accessibility issues that customers and end users are experiencing
- by addressing customers' and end users' issues, the business can reduce service response time and the improve availability of the service.

AO3 The student will evidence evaluation of the factors that need to be considered when meeting customers' and end users' needs, that may include:

- the business must ensure its employees know the importance of understanding cultural differences in the workplace, so they can maximise the business' potential by uniting everyone to focus on achieving the business goals
- inclusion can promote a culture where everyone feels welcome; the business is more likely to benefit from a diverse range of customers that could help shape and develop new products and services and provide an inclusive website for everyone
- being a more accessible and inclusive business can encourage increased communication and coordination between accessibility, inclusivity, cultural awareness/diversity
- having staff follow the guidelines, standards and techniques will ensure that standards expected by customers and end users, will be met
- meeting the customers' needs and addressing end users' issues is crucial in retaining and attracting new customers; also, the business will gain knowledge of what their customers need, which could help future business decision making.

Accept any other suitable responses.

Section B: Diversity and inclusion and digital environments

Total for this section: 39 marks plus 3 marks for QWC

10	**An employee has filed a complaint as she was overlooked for a promotion during her maternity leave.**
	Identify which legislation would protect the employee from being discriminated against.
	A Civil Rights Act 1964
	B Employment Act 2008
	C Employment Agency Act 1973
	D Equality Act 2010
	[1 mark]

AO1 = 1 mark

Award **one** mark for:

D   Equality Act 2010

11	**Identify** one **form of hardware computers can use for file storage.**
	[1 mark]

AO1 = 1 mark

Award **one** mark for identifying a correct form of hardware computers can use for file storage (AO1).

- Hard disk drive (HDD) (1).
- Solid state drive (SSD) (1).
- CD, DVD and blu-ray discs (1).
- DVD R/RW (1).
- CD ROM is a read-only memory (ROM) (1).
- USB flash memory (1).

Accept any other suitable response.

12	**Name** one **type of cloud computing service.**
	[1 mark]

AO1 = 1 marks

Award **one** mark for naming **one** type of cloud computing (AO1).

- Public (1).
- Private (1).
- Hybrid (1).
- Community (1).

Accept other suitable response.

13	Ajay has recently started work for a local school as their new IT Technician. As part of their role Ajay has been asked to run a session on network referencing models for a group of computer science students.
	(a) Describe one **network referencing model Ajay could feature in the session.**
	[2 marks]
	(b) Explain the benefit of using the chosen network referencing model for Ajay in their job.
	[2 marks]

AO1 = 2 marks
AO2 = 2 marks

(a) Award **one** mark for each descriptive point up to a maximum of **two** marks (AO1).

- The Open System Interconnection (OSI) is a conceptual model (1) that describes the seven layers used by a device to communicate over a network (1).
- OSI model consists of seven layers (1) that helps to visualise how networks work and communicate (1).
- OSI can be used to troubleshoot networking problems (1) by identifying which network layer is causing an issue (1).
- The Transmission Control Protocol/Internet Protocol (TCP/IP) model is a more concise version of the OSI model (1) consisting of four/five layers (1).

(b) Award **one** mark for each explanation point, up to a maximum of **two** marks (AO2).

- As the OSI model is a universal conceptual model it aims to break the communication process down into smaller, more manageable steps (1) by dividing the networking process into seven stacked, abstract layers with each layer having its own responsibilities (1). As this is a conceptual model it would be beneficial to Ajay as it can be used regardless of the devices and network system to troubleshoot which layer a problem might sit at (1).

- The TCP/IP model is based on standard protocols and helps to identify how a device should be connected to the internet for a reliable communication over a great distance (1), this is beneficial to Ajay in their job as regardless of the device or system being used, he will be able to troubleshoot problems quicker and more efficiently (1).

Accept any other suitable response.

14	**Happy Feathers is a healthcare provider for the elderly. They supply care workers to patients requiring medical support in their own homes and in specialist care facilities around the country.**
	The company wishes to improve access to digital health records, so that staff are able to access patient records when with the patients and provide more effective care.
	(a) Explain one **way in which digital inclusion would benefit the patients.** **[2 marks]**
	(b) Discuss two **ways in which digital inclusion will impact the staff at Happy Feathers.** **[4 marks]**

AO2 = 2 marks
AO3 = 4 marks

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

- Digital inclusion would benefit the patients as they would be able to see and check their records more easily and take an active part in their own care (1) – carers would have up to date health information on the patient which will reduce the chance of medical mistakes (1).
- It enables the patient to provide carers with more regular and immediate updates on their health (1) which carers can then add to their digital records to build up a more up-to-date picture of their patient's current health (1).

(b) Award **one** mark for **each** discussion point on how digital inclusion affects individuals in the healthcare sector, up to a maximum of **two** marks per impact**, a maximum of four** marks in total (AO3).

- Making business services available for all staff could increase productivity as staff will be able to access digital records when they need them rather than at the end of the day from the office / base (1), this would save time when they are helping their patient which will lead to less frustration which can then lead to lower staff absence (1).
- If the business enhances the access and connectivity of digital technology for all staff there is scope for more staff development and opportunities to upskill employees (1), as they would become more familiar with a range of different digital systems which could lead to the staff being able to secure a promotion (1).

- There is an opportunity for greater flexibility for its employees to work from the office or remotely from home to complete any patient records at the end of each shift as they no longer need to go to the office to access paper-based records in order to complete this (1), providing greater scope of communication and collaboration between the health staff and its care facilities as they will no longer need to arrange to meet face to face (1).
- For the health and care system, digital inclusion can facilitate more effective delivery of care and / or better outcomes, and / or reduced costs (1). It can enhance the delivery of care for every patient within its health system and may identify treatment options much sooner, reducing costs of treatment on the heath service (1).

Accept any other suitable response.

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15 **Fenzo's Exotic Jewellery provides multicultural, custom jewellery to clients from all around the world. They pride themselves on offering a range of different products that support all cultures and ethnic backgrounds, to create an inclusive customer base. The company has a team of buyers who focus on sourcing products and materials from overseas that are diverse and inclusive to meet all their customer needs.**

The business wants a more diverse and inclusive creative team of staff to produce better products and enhance its business reputation.

(a) Suggest three **ways a diverse and inclusive team could benefit Fenzo's Exotic Jewellery.**

[3 marks]

(b) Discuss how these benefits will improve Fenzo's Exotic Jewellery's business.

[4 marks]

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AO2 = 3 marks
AO3 = 4 marks

(a) Award **one** mark for each way a diverse and inclusive team could benefit Fenzo's Exotic Jewellery, up to a maximum of **three** marks (AO2):

- create better connections with international customers in an authentic way (1)
- a diverse workforce could be a unique selling point (1)
- increase sourcing of jewellery from a wider range of creators from around the world (1)
- may raise the company's awareness of more targeted, localised marketing channels (1)
- could lead to better global sourcing from a range of different cultures (1)
- could lead to using a more diverse range of materials (1).

(b) Award **one** mark for **each** discussion point of how these benefits will improve Fenzo's Exotic Jewellery business, up to a maximum of **four** marks (AO3), for example:

- Employing a diverse workforce could be a unique selling point which would attract more customers to buy jewellery from the business and increase the reputation in terms of its cultural inclusivity and / or increase business sales and profits (1).
- Having a diverse range of new recruits could further enhance creativity leading to a more diverse and / or innovative range of products as there would be a wide range of cultural ideas of what jewellery is and what it represents, and this could be sensitively incorporated into future products to make the range more inclusive for customers (1).
- Sourcing jewellery from a wide range of local creators around the world / sourcing a wider range of materials will ensure that the products that the company offers are diverse and will suit everyone regardless of their ethnic or cultural backgrounds which will increase sales (1).

- Being able to connect to international customers in an authentic way can increase their growth as customers are increasingly wanting to engage with businesses that are ethical and inclusive which would also help the business to have a positive social impact in the local communities where they are purchasing the jewellery from (1).

Accept any other suitable response.

> **16** **Megs Ltd is an architectural design consultancy that offers a range of architectural services.**
>
> **Their current IT operation structure is outdated and very slow. There has been a number of recurring issues, including the loss of client data due to hardware failure and miscommunication owing to poor connectivity. This has also resulted in data breaches and the wrong information being sent to clients.**
>
> **As a result of these problems the business has seen an increase in complaints and even a loss of clients to their competitors. Management has decided it is time to improve the IT infrastructure to create a more resilient digital environment.**
>
> **(a) State** two **benefits to Megs Ltd of having a more resilient digital environment.**
>
> [2 marks]
>
> **(b) Describe** one **way a more resilient digital environment will reduce the number of complaints that Megs Ltd are experiencing.**
>
> [2 marks]
>
> **(c) Discuss how a more resilient digital environment would address the various issues that Megs Ltd are facing.**
>
> [3 marks]

AO1 = 2 mark
AO2 = 2 marks
AO3 = 3 marks

Award **one** mark for **each** benefit of a resilient digital environment as stated, up to a maximum of **two** marks (AO1):

- increased security of data (1)
- better company reputation (1)
- increased customer confidence (1)
- more secure transfer of data (1)
- reduces system vulnerabilities (1)
- reduced probability of cyber-attacks (1).

Award **one** mark for a description of how a more resilient digital environment will reduce customer complaints, up to a maximum of **two** marks (AO2).

- Having a more resilient digital environment will reduce complaints as it will ensure that there is less downtime in their emails and PCs (1) which means customers won't have to wait for their designs or replies to queries and complaints (1).
- By having a more resilient digital environment there is less chance of data loss due to issues with the PCs (1), which will mean customers won't have to be told their designs have been lost (1), which will result in fewer complaints being mad (1).

- Updating the hardware at Megs Ltd will ensure that there are less technical issues with the PCs and customer designs (1), which will result in less complaints being made (1).

Award **one** mark for each discussion point on how a resilient digital environment would address the issues facing Megs Ltd, up to a maximum of **three** marks (AO3).

- Having a more resilient digital environment will solve the issue with poor connectivity (1) that Megs Ltd is facing as upgrading the IT infrastructure will mean that architecture plans can be transferred faster as the PCs will have more RAM (1). There will be reduced chance of data breaches as the IT system will have more regular updates and better internet security, which will decrease the chance of people hacking into the company's systems (1).
- A more resilient digital environment will address many of the problems that Megs Ltd are facing as these problems have arisen from obsolete technology being used (1). Architecture is an activity that is very hardware and software intensive in its use (1), which means Megs Ltd needs to be updating their IT infrastructure on a frequent basis (1) to ensure that they can continue to offer the same level of service to customers (1). If Megs Ltd update their technology on a more frequent basis they will see their work being completed faster, as the IT infrastructure will be able to process it and this will reduce customer complaints due to late work (1).

Accept any other suitable response.

17	Cravens Cosmetics Manufacturers is a large business specialising in the cosmetics industry. It is looking at upgrading its servers including the software and hardware.

The management wants to investigate whether a virtual computer system is the right IT solution for the business. The business recently undertook a financial audit that identified the need to reduce business costs. Some areas in which overspend have been identified are:

- **high overheads for software licensing**
- **high energy consumption and large overheads on hardware**
- **expensive maintenance of outdated business servers**
- **costs to recover data loss due to poor data management and security.**

Assess the benefits and impacts to Cravens Cosmetics Manufacturers of using virtual computing systems.

[12 marks, plus 3 for QWC]

AO1 = 4 marks
AO2 = 4 marks
AO3 = 4 marks

Band	Mark	Descriptor
4	10–12	AO3 **Well-reasoned** and **in-depth** assessment of the benefits and impact of Cravens Cosmetics moving towards using virtual computing systems is **comprehensive**, **effective**, **relevant** and shows **detailed understanding** and **logical and coherent** chains of reasoning throughout. Given conclusions are informed and are fully supported with rational and balanced judgements. AO2 Applied **all relevant knowledge** of how virtual computing could benefit Cravens Cosmetics relating to the context and shows a **detailed functional understanding** of digital operational integrity. AO1 A wide range of relevant knowledge and understanding of the ways virtual computing benefits the business which is **accurate** and **detailed**. A wide range of appropriate technical terms are used. The answer demonstrates comprehensive breadth and / or depth of understanding.
3	7–9	AO3 **Reasoned** and **mostly detailed** assessment of the benefits and impact of Cravens Cosmetics moving towards using virtual computing systems 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.

Band	Mark	Descriptor
		AO2 Applied **mostly relevant knowledge** of ways virtual computers could benefit Cravens Cosmetics relating to the context, showing **some functional understanding** of digital operational integrity. AO1 Knowledge and understanding of the ways virtual computing benefits the business is in **most parts clear** and **mostly accurate**, although on occasion may lose focus. The answer demonstrates **reasonable** breadth and / or depth of understanding, with **occasional** inaccuracies and / or omissions.
2	4–6	AO3 **Some reasoned but superficial assessment** of the how virtual computing will benefit the business 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.** AO2 Applied **some, but limited knowledge** of, ways virtual computing could be used to benefit the business context and may **show a lack of functional** understanding. AO1 Knowledge and of the ways virtual computing benefits the business to show some, but **limited accuracy**, **focus and relevance.** The answer is **basic** and shows **limited** breadth and / or depth of understanding, **with** inaccuracies and omissions.
1	1–3	AO3 **Limited** and **superficial assessment** of the ways in which virtual computing will benefit the business is **minimal** and **very limited** in effectiveness and relevance. Given **tenuous** conclusions that are unsupported and show little relevance to the question aims. AO2 Applied **general knowledge** and / or general assertions about how virtual computing could be used to benefit the business with **little relevance** to the context. AO1 Knowledge and understanding of the ways virtual computing benefits the business shows **very minimal accuracy**, **focus** and **relevance**. The answer has **isolated** points, showing **very minimal** breath and / or depth of understanding, with **significant** inaccuracies and omissions.
	0	No creditable evidence.

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

AO1 Demonstrate knowledge and understanding of virtual computing, that may include:

- virtual machines (VMs) can process information that is found on physical hardware (or the physical hardware itself) and is transferred into a virtual environment – this can make it more cost effective in larger digital environments
- virtual machine server (VM server) hosts or runs VMs that run various operating systems and act as full computing platforms on their own
- there are two types of hypervisor type 1 (Microsoft Hyper-V) which is hardware based and type 2 (virtual PC, virtual server) which is software based
- VMs can be more environmentally friendly by lowering the carbon footprint
- VMs are more resilient, for example, by clustering the computers
- the VMs are efficient for testing environments
- disaster recovery is quick as you can redeploy VMs on your system
- the VMs are a great platform for providing education and training for employees.

AO2 Application of knowledge and understanding of how virtual computing could be used to benefit the business in this context, that may include:

- by streamlining server usage in large environments, as well as reducing hardware costs, the VMs allow organisations to run multiple servers off the same appliance and be more efficient in terms of processing information
- it is much easier to manage larger environments when the software that interfaces with virtual environments and the underlying physical hardware are used to simplify resource administration, enhance data analyses and streamline operations
- virtualisation reduces space requirements in the data centres, which leads to reduced energy consumption and reduces the environmental impact when it comes to decommissioning and disposing of excess hardware within Cravens Cosmetics

- virtualisation is an effective test optimisation tool that has many benefits, making the process faster and more efficient; among them are better quality of the finished product, process flexibility, reduction in costs and time for testing
- clustering computers can provide faster processing speed, larger storage capacity, better data integrity, greater reliability and wider availability of resources – this can overall improve the efficiency and performance of Cravens Cosmetics
- a hypervisor allows one host computer to support multiple guest VMs by virtually sharing its resources, such as memory and processing
- virtual classrooms can provide a cloud-based space for staff and trainers to communicate and collaborate within
- VMs allow easy installation and configuration of the OS and applications, Craven Cosmetics could use these for training staff across multiple departments on different applications in a safe virtual environment.

AO3: Assessment of the benefits and impact of Cravens Cosmetics moving towards using virtual computing systems, that may include:

- reduced hardware costs allow businesses to dramatically reduce capital and operating costs by saving money on purchasing new hardware and expanding the lifespan of existing hardware – it reduces the expenses of the business and the money can be re-invested elsewhere
- VMs mean that Cravens Cosmetics will have a small footprint and energy saving, as virtualisation reduces the office space needed to maintain and expand IT capabilities, so the company can grow the business
- by using VMs it can also improve data security and disaster recovery options as virtualisation streamlines the disaster recovery process by replicating Cravens Cosmetics servers off-site in the cloud – so the business has a good recovery plan in place and is a much more secure environment than a physical one – the business is less likely to have downtime and costs incurred to the business are likely to be lower
- VMs increase the IT operational efficiency as they can reduce the time employees take for routine administrative tasks – when you partition one physical server into several VMs you can deploy, operate and manage multiple operating systems at once from a single physical server – thus, reducing operation costs, improving staff productivity and business performance for Cravens Cosmetics.

Section C: Learning and planning   Total for this section: 21 marks

18	**State** two **consequences of ineffective project planning.**
	[2 marks]

AO1 = 2 mark

Award **one** mark for identifying one consequence of ineffective project planning (AO1):

- under-resourced (1)
- escalating costs (1)
- exceeding time frames (1)
- unable to deliver outcomes (1)
- negative environmental impact (1)
- health and safety risks (1)
- scope creep (1).

Accept any other suitable response.

19	**Give** two **advantages of personal development to employees in the digital sector.**
	[2 marks]

AO1 = 2 marks

Award **one** mark for each advantage given, up to a maximum of **two** marks:

- up-to-date knowledge
- can meet industry standards
- can use a wider range of tools and techniques
- can get qualifications
- can join industry bodies
- will be more effective
- increase productivity
- increased employment potential
- better chance of promotion
- easier to get other jobs.

Accept any other suitable response.

20	**LJD Security Ltd is a business that provides a range of digital and in person security solutions to its clients. LJD's clients tend to be law enforcement agencies, private clients and organisers of large events, such as concerts and sporting events.**
	The business has decided to offer drone security services as an alternative to many of its customers.
	Explain one **reason why drones could be a suitable addition to LJD Security's surveillance methods.**
	[2 marks]

AO2 = 2 marks

Award **one** mark for each explanation point, up to a maximum of **two** marks.

- Drones are able to survey larger areas in less time (1), which would enable security personnel to respond more effectively (1).
- Drones can also be designed to use thermal tracking software to assist in apprehending intruders (1), this can make security personal aware where the individual is and reduce the need for additional security resources to be deployed (1).
- Drones are used for quality aerial imaging that could otherwise be difficult for personnel to access without the use of a helicopter. They are excellent for taking high-quality aerial photographs, video and collecting vast amounts of imaging data (1), their images are also much more precise and can be taken quickly as a low cost (1).
- Drones can give media access to hard to reach and remote places (1), this provides additional coverage and recorded footage of events taking place under surveillance and can be used as evidence in court (1).

Accept any other suitable response.

21 **Baxter's Research Ltd is a data analytics company specialising in competitor intelligence. They help clients identify their competitors' strengths and weaknesses and to develop products, services, and experiences that their consumers want.**

The research team uses a range of primary and secondary sources to source and clean data, so that it is reliable and valid. The data is then presented as a dashboard.

(a) Identify two **sources of knowledge that Baxter's Research Ltd can access to research their client's competitors.**

[2 marks]

(b) Explain why one **of the sources of knowledge identified may not provide valid or reliable data about its client's competitors.**

[2 marks]

AO1 = 2 marks
AO2 = 2 marks

(a) Award **one** mark for each identification of an appropriate source of knowledge, up to a maximum of **two** marks (AO1):

- websites (1)
- blogs (1)
- wikis (1)
- social media (1)
- supplier literature (1).

(b) Award **one** mark for each explanation point of why each source of knowledge may not provide valid or reliable data (does not need to cover both valid and reliable), up to a maximum of **two** marks (AO2).

- Websites provide a range of information on businesses, such as a company's mission statement, business objectives, about the business, statistical and performance related facts. If the competitor does not update their website regularly then the data being used may be unreliable (1) and this would mean that the information would be useless in decision making (1).
- The financial records that a competitor publishes is likely to be biased and subjective. (1) The competitor will not want to give away all their trade secrets and so they will provide overview data, which may not be fully reflective of the financial situation of the business (1).
- Using competitor data may not be reliable as you will not know who the intended audience was (1) and so the data may not be telling you what you think it is as you won't know the reason for the data being created (1).
- Using competitor data may not be valid as there is no way in which you can corroborate the sources used as the competitor may have paid for primary research to be carried out (1) and you will not be able to see the raw data to determine if the headline figures are accurate (1).

Accept any other suitable response.

22	Zoniks is a consultancy and building firm that specialises in redesigning hotels. In particular, Zoniks specialises in introducing retail space into hotels to make use of underutilised space.
	A new client has recently hired Zoniks to redevelop two of their hotels and to introduce retail space on the ground floor of each hotel. They have agreed the budget for each hotel and a timescale of 4 months for the work at both hotels to be completed.
	(a) Explain why it will be important to the project that clear aims and objectives are set.
	[2 marks]
	(b) Assess which part of the project planning process the project manager will need to pay the most attention to, giving reasons for your answer.
	[3 marks]

AO2 = 2 marks
AO3 = 3 marks

(a) Award **one** mark for each explanation point why it is important to have clear aims, up to a maximum of **two** marks (AO2).

- It is important that the project hasclear aims as there is a tight timescale and budget to achieve (1) across the two hotels and so everyone needs to know what needs doing and when, so it is completed on time (1).
- Aims and objectives are important, so it is clear to the client and the project team (1) what the hotel project will cover and what needs to be delivered at key timescales (1).
- A hotel project will need an engagement strategy of stakeholders, so it is important that the business identifies all the key suppliers, individuals and groups of people who will need to be involved in the project (1).

(b) Award **one** mark for each assessment point of which part of the project planning process is most important and why, up to a maximum of **three** marks (AO3).

- Having a clear understanding of the resource requirements is the most important part of the project planning process, as this is the most vital part of the project (1). If there are not enough people or the materials are not available, the project will be delayed which will mean the hotel projects would be delayed (1) this would stop the hotel reopening in time or would mean guests will see the work, which would give the business and hotel a bad reputation. (1)
- Budgeting is the most important part of the planning process as the budget is finite and if the project overspends then the project may not be completed (1). This could be an issue if the project is a fixed fee contract as the project company would have committed to complete the project (1) which would mean the project company would have to pay to finish the project out of their own pocket so it's important to keep to the budget (1). Costing

means the business can forecast a budget, calculate a total for the overall project for the client and source the most suitable cost-effective suppliers for the project (1).

- The project lifecycle is the most important part of the planning as this is a hotel with bookings for next year and so it must be completed on time (1), otherwise the hotel would have to cancel bookings and the project company could be fined (1) or their reputation damaged as they didn't finish in time, so other hotels won't use them in the future (1).
- The people who Zoniks hire must be highly skilled and efficient in their job role to meet project deadlines, (1) as this may increase the business reputation and lead to an increase in profits (1). Installing specific hardware and software to support a sales system would require the employment of skilled individuals with experience in IT solutions (1).
- The business may be able to plan a start and completion date, estimate cost and inform potential suppliers of required resources which may lead to better business performance (1).
- An engagement strategy can help the business improve relations with its stakeholders and communication can be more effective if all parties are involved in the project planning from the start (1).

Accept any other suitable response.

23	Crofty Ltd is a business that offers bespoke conservatories to a range of clients. The average conservatory project will take 3 months from start to finish with the actual install taking between 3 to 4 weeks.
	The project stages involve:
	• planning permission – 8 weeks • construction work starts with base – 3 days • install the conservatory frames • put the glazing in • carry out any electrical work • plastering the walls, finish the electrics and add in the floor.
	Crofty Ltd uses programme evaluation review technique (PERT) at each stage of the project to make sure it has the available resources and time, and meets the estimated deadlines agreed with its clients.
	(a) Give three examples of how using PERT to plan the construction project could benefit Crofty Ltd. [3 marks]
	(b) Assess whether PERT or MoSCoW (Must have, Should have, Could have Won't have) would be the better tool to use to ensure that the conservatory is completed on time and on budget. [3 marks]

AO2 = 3 marks
AO3 = 3 marks

Award **one** mark for each example of how using PERT would be beneficial to Crofty Ltd up to a maximum of **three** marks (AO2).

- A PERT chart will allow the 'what if's' of the project to be considered, such as what if the glass for the conservatory is delayed (1) and this then will help the project stay on track (1).
- It gives a visual overview (1) of each stage of the conservatory build so everyone can see what's being completed when (1) and the manager can ensure that the building materials and labour are there when needed (1).
- It will help the project manager to maximise the use of the resources across a number of conservatories (1), so they can have several projects on the go at once rather than doing one at a time as this is not cost effective (1).

Award **one** mark for each assessment point of whether PERT or MoSCoW would be the better project planning tool, up to a maximum of **three** marks (AO3).

Reasons PERT might be most suitable:

- PERT is the best approach for this conservatory project as it considers the whole period of time for the conservatory including planning time (1) and it allows the project manager to move resources around (1) if there are going to be any delays, so that they can stay on budget (1)
- PERT may not be the best tool to use as it is more useful for large scale projects (1), whereas a single conservatory installation is a relatively small project and does not take a large amount of time or have a large budget (1) which PERT is more commonly used for (1).

Reasons MoSCow is most suitable for Crofty Ltd:

- the MoSCow tool is the best tool to use because it helps the project manager to prioritise the tasks that need to be completed (1) so it is ideal for a short project like erecting a conservatory, as whilst the planning takes time (1) the base install is only 3 days and this timescale doesn't allow for delays (1)
- MoSCOw would be the best approach as it helps the project manager to prioritise resources (1), such as the labourers building the conservatory, so this means that the project team can operate several different conservatory installations at once (1) as the MoSCoW would identify where to prioritise the resources (1)
- MoSCow may not be the best approach as it is best suited to short term projects (1) and the conservatory project will take 3 months in total planning time (1) before the project starts, which won't be factored into the MoSCoW tool as no resources are needed during this time (1).

Accept any other suitable response.

Assessment Objective Grid

Section A

Question	AO1	AO2	AO3	QWC	Total
1	1				1
2	1	1			2
3		2			2
4 (a)	1				1
4 (b)		2			2
5 (a)	2				2
5 (b)		2			2
6 (a)	2				2
6 (b)		2			2
7		2	4		6
8 (a)		2			2
8 (b)			4		4
9	4	4	4	3	15

Section B

10	1				1
11	1				1
12	1				1
13 (a)	2				2
13 (b)		2			2
14 (a)		2			2
14 (b)			4		4
15 (a)		3			3
15 (b)			4		4
16 (a)	2				2
16 (b)		2			2
16 (c)			3		3
17	4	4	4	3	15

Section C

18	2				2
19	2				2
20		2			2
21 (a)	2				2
21 (b)		2			2
22 (a)		2			2
22 (b)			3		3
23 (a)		3			3
23 (b)			3		3
Paper Totals	**28**	**40**	**32**	**6**	**106**

Document information

Owner: Head of Assessment Design

Change History Record

Version	Description of change	Approval	Date of Issue
v1.0	Additional sample materials.		November 2022
v1.1	Sample added as a watermark.	November 2023	17 November 2023