

**5220-20-020/520 Level 2 Technical Award in Digital
Technologies – Theory Exam**

Exam date: March 2019

Q1	State four types of non-volatile storage media.			
Q1	Acceptable answer(s)	Guidance	Max mks	Ref
Q1	<p>1 mark for each type of storage media: maximum of 4 marks:</p> <ul style="list-style-type: none"> • Optical (1) • Magnetic hard disk drive (1) • Solid State Drive (SSD)(1) • Cloud (1) 	<p>The list contains generic types of non-volatile storage media. The candidate may give specific examples of non-volatile storage media that are not included in the unit, such as:</p> <ul style="list-style-type: none"> • ROM • CDs • DVDs • Firmware • Memory Stick <p>Where an item is duplicated within the answers given, either by name or meaning, the duplicated item will not be awarded a mark, but it will count towards the number of items assessed for marking.</p> <p>Marks must not be awarded for the use of brand names to represent non-volatile storage media types. For example, OneDrive is not acceptable to represent Cloud.</p> <p>Marks are capped to a maximum of 1 mark for each valid item stated.</p>	4	<p>251 – 1.2,</p> <p>AO1</p>
LO	251.1 Understand application software			

[illegible]

Q4	Explain how the following help to prevent threats to a network. <ul style="list-style-type: none"> • Firewalls. • Anti-virus software. 			
Q4	Acceptable answer(s)	Guidance	Max mks	Ref
Q4	2 marks for each explanation: maximum of 4 marks: <ul style="list-style-type: none"> • <u>Firewalls</u> inspect incoming/outgoing data against a pre-defined set of rules (1) if they match the rules they are allowed to enter/exit (1) the network. • <u>Anti-virus</u> software compares files against a definition (1). If it recognises a file as a threat it will quarantine/delete it (1). 	<p>Candidates may give very different explanations from those in the model answers.</p> <p>Marks awarded are capped for each separate explanation at a total of 2 marks.</p> <p>Candidates should be allowed to give any valid explanation and marks should be awarded for each distinct element in the explanation.</p> <p>Where a point is duplicated within each explanation, by meaning, the duplicated item will not be awarded a mark.</p>	4	251 – 2.4 AO2
LO	251.2 Understand networks			

[illegible]

[illegible]

[illegible]

Q8	State four file formats that can be used when working with images.			
Q8	Acceptable answer(s)	Guidance	Max mks	Ref
Q8	<p>1 mark for each file format: maximum of 4 marks:</p> <ul style="list-style-type: none"> • .raw (1) • .bmp (1) • .jpeg (1) • .png (1) • .webp (1) • .wmf (1) • .tiff (1) • .eps (1) 	<p>The list contains generic types of file formats. The candidate may give specific examples of file formats that are not included in the unit, such as:</p> <ul style="list-style-type: none"> • GIF - Graphics Interchange File • IMG - Graphical Environment Manager (GEM) Image file • JPE - JPEG/JIFF Image file • JPG - JPEG/JIFF Image file • PBM - Portable BitMap image file • PCD - Photo-CD image file • PCT - PICT image file • PGM - Portable Greymap file • PPM - Portable Pixmap file • PSD - Adobe Photoshop bitmap file • RAS - Raster image file • TGA - Targa bitmap <p>Where an item is duplicated within the answers given, either by name or meaning, the duplicated item will not be awarded a mark.</p> <p>Marks are capped to a maximum of 1 mark for each valid item stated.</p>	4	<p>253 – 1.1</p> <p>AO1</p>
LO	253.1 Understand file formats and their use			

[illegible]

[illegible]

[illegible]

Q12	State four types of data that can be stored in a database.			
Q12	Acceptable answer(s)	Guidance	Max mks	Ref
Q12	1 mark for each item: maximum of four marks: <ul style="list-style-type: none"> • Text (1) • Numeric (1) • Image (1) • Video (1) • Audio (1) 	<p>The list contains types of data. The candidate may give specific examples of data that are not included in the unit, such as:</p> <ul style="list-style-type: none"> • Dates • Times • Currency <p>Where an item is duplicated within the answers given, either by name or meaning, the duplicated item will not be awarded a mark.</p> <p>Marks are capped to a maximum of 1 mark for each valid item stated.</p>	4	254 – 2.1 AO1
LO	254.2 Understand data storage and software			

Q13	Explain the following terms. <ul style="list-style-type: none"> • Primary data. • Secondary data. 			
Q13	Acceptable answer(s)	Guidance	Max mks	Ref
Q13	2 marks for each explanation, maximum of 4 marks: <ul style="list-style-type: none"> • <u>Primary</u> data is data collected by himself/ herself (1) for a specific purpose (1). • <u>Secondary</u> data is collected by someone else for some other purpose (1) that is being used by another person (1). 	<p>Candidates may give very different explanations from those in the model answers.</p> <p>Marks awarded are capped for each separate explanation at a total of 2 marks.</p> <p>Candidates should be allowed to give any valid explanation and marks should be awarded for each distinct element in the explanation.</p> <p>Where a point is duplicated within each explanation, by meaning, the duplicated item will not be awarded a mark.</p>	4	254 1.2, AO2
LO	254.1 Understand data collection methods			

Q14	<p>A small company has asked you to develop a website that is linked to a database containing images and details of their stock.</p> <p>Discuss what you would consider when planning and developing the website.</p>			
Q14	Acceptable answer(s)	Guidance	Max mks	Ref
Q14	<p>Indicative content: A candidate's discussion may include consideration of:</p> <ul style="list-style-type: none"> • Planning <ul style="list-style-type: none"> ○ Life cycle models ○ Sourcing <ul style="list-style-type: none"> ▪ Budget ○ Hardware <ul style="list-style-type: none"> ▪ System requirements ▪ Data storage ○ Software <ul style="list-style-type: none"> ▪ Operating System ▪ Applications ○ Networks <ul style="list-style-type: none"> ▪ Cloud services ○ User requirements ○ Social media strategy ○ Legislation ○ Regulations ○ Compliance • Design <ul style="list-style-type: none"> ○ Skill requirements <ul style="list-style-type: none"> ▪ Editing techniques ○ Development timescales ○ Data requirements <ul style="list-style-type: none"> ▪ Social media channels ○ Data storage ○ Security <ul style="list-style-type: none"> ▪ Threats ▪ Vulnerabilities ▪ Risks ▪ Data 	<p>0 marks – no awardable material</p> <p>Band 1: 1– 3 marks The response demonstrates a limited understanding of the processes and technologies involved and is mostly a statement of facts, which are not developed. The approach to the task is inconsistent. Statements may be occasionally incorrect, and the use of precise technical language is sparse.</p> <p>Band 2: 4 – 6 marks The candidate has produced a discussion that expands on the factual knowledge but lacks detail in some areas. They show an adequate understanding of the processes and technologies involved including some reasons for their selection. They have provided some valid reasons for their choices. The response is structured and presented in a logical order.</p> <p>Band 3: 7 – 9 marks The candidate has produced a thorough discussion in a logical and professional manner. They show a thorough understanding of the processes and technologies involved and have covered these in the correct logical order, including reasons behind the processes and technologies, the factors that need to be considered and the impact these factors may have on the implementation. They have clearly understood how all of the processes and technologies link to one another in terms of order and importance. They have provided valid reasons for their choices. The response is clear, coherent and all information has been presented in a logical order.</p>	9	<p>251: 1.1, 3.1, 3.2 252: 1.1, 1.2; 1.3, 1.4, 2.1; 2.2 253: 1.1; 2.1, 2.2; 2.3; 3.1 254: 1.1, 2.1</p>

	<ul style="list-style-type: none"> <ul style="list-style-type: none"> ▪ Countermeasures <ul style="list-style-type: none"> ○ Hardware ○ Software ○ Networks ▪ Data backup • Implementation <ul style="list-style-type: none"> ○ Content creation <ul style="list-style-type: none"> ▪ File formats ○ Publishing ○ Accessibility features • Testing <ul style="list-style-type: none"> ○ Test plan • Maintenance <ul style="list-style-type: none"> ○ Security ○ User support ○ Accounts • Fault log 			AO4
LO	251: 1.1, 3.1, 3.2 252: 1.1, 1.2; 1.3, 1.4, 2.1; 2.2 253: 1.1; 2.1, 2.2; 2.3; 3.1 254: 1.1, 2.1			

Q15	Discuss the types of application software and skills required to create a website with multimedia and social media content to raise awareness of environmental issues.			
Q15	Acceptable answer(s)	Guidance	Max mks	Ref
Q15	<p>Indicative content: A candidate's discussion may include consideration of:</p> <ul style="list-style-type: none"> • Planning <ul style="list-style-type: none"> ○ Life cycle models ○ Sourcing <ul style="list-style-type: none"> ▪ Budget ○ Hardware <ul style="list-style-type: none"> ▪ System requirements ▪ Data storage ○ Software <ul style="list-style-type: none"> ▪ Operating System ▪ Applications ○ Networks <ul style="list-style-type: none"> ▪ Cloud services ○ User requirements ○ Social media strategy ○ Legislation ○ Regulations ○ Compliance • Design <ul style="list-style-type: none"> ○ Skill requirements <ul style="list-style-type: none"> ▪ Editing techniques ○ Development timescales ○ Data requirements <ul style="list-style-type: none"> ▪ Social media channels ○ Data storage ○ Security <ul style="list-style-type: none"> ▪ Threats ▪ Vulnerabilities ▪ Risks ▪ Data ▪ Countermeasures ○ Hardware ○ Software ○ Networks <ul style="list-style-type: none"> ▪ Data backup • Implementation 	<p>0 marks – no awardable material</p> <p>Band 1: 1– 3 marks The response demonstrates a limited understanding of the processes and technologies involved and is mostly a statement of facts, which are not developed. The approach to the task is inconsistent. Statements may be occasionally incorrect, and the use of precise technical language is sparse.</p> <p>Band 2: 4 – 6 marks The candidate has produced a discussion that expands on the factual knowledge but lacks detail in some areas. They show an adequate understanding of the processes and technologies involved including some reasons for their selection. They have provided some valid reasons for their choices. The response is structured and presented in a logical order.</p> <p>Band 3: 7 – 9 marks The candidate has produced a thorough discussion in a logical and professional manner. They show a thorough understanding of the processes and technologies involved and have covered these in the correct logical order, including reasons behind the processes and technologies, the factors that need to be considered and the impact these factors may have on the implementation. They have clearly understood how all of the processes and technologies link to one another in terms of order and importance. They have provided valid reasons for their choices. The response is clear, coherent and all information has been presented in a logical order.</p>	9	<p>251: 1.1; 1.2 252: 1.1; 1.2; 2.1; 2.2 253: 1.1; 1.2; 2.2; 2.3; 3.1</p> <p>AO4</p>

	<ul style="list-style-type: none">○ Content creation<ul style="list-style-type: none">▪ File formats○ Publishing○ Accessibility features• Testing<ul style="list-style-type: none">○ Test plan• Maintenance<ul style="list-style-type: none">○ Security○ User support○ Accounts• Fault log			
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