Cambridge Technicals
IT

Unit 1: Fundamentals of IT

Level 3 Cambridge Technical in IT
05838 – 05842 & 05877

Mark Scheme for June 2022

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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MARKING INSTRUCTIONS

PREPARATION FOR MARKING

TRADITIONAL
Before the Standardisation meeting you must mark at least 10 scripts from several centres. For this preliminary marking you should use **pencil** and follow the **mark scheme**. Bring these **marked scripts** to the meeting.

MARKING

1. Mark strictly to the mark scheme.

2. Marks awarded must relate directly to the marking criteria.

3. The schedule of dates is very important. It is essential that you meet the traditional 40% Batch 1 and 100% Batch 2 deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.

4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or by email.

5. **Crossed Out Responses**
   Where a candidate has crossed out a response and provided a clear alternative then the crossed out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed out response where legible.

   Rubric Error Responses – Optional Questions
   Where candidates have a choice of questions across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. Enter a mark for each question answered into RM assessor, which will select the highest mark from those awarded. (The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)

   Multiple Choice Question Responses
   When a multiple choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate).
   When a question requires candidates to select more than one option/multiple options, then local marking arrangements need to ensure consistency of approach.

Contradictory Responses
When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

Short Answer Questions (requiring only a list by way of a response, usually worth only **one mark per response**)
Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. (The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)

Short Answer Questions (requiring a more developed response, worth **two or more marks**)
If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space.)

Longer Answer Questions (requiring a developed response)
Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

6. Always check the pages (and additional lined pages if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add an annotation to confirm that the work has been seen.

7. There is a NR (No Response) option. Award NR (No Response)
   - if there is nothing written at all in the answer space
   - OR if there is a comment which does not in anyway relate to the question (e.g. 'can't do', 'don't know')
   - OR if there is a mark (e.g. a dash, a question mark) which isn't an attempt at the question

   Note: Award 0 marks - for an attempt that earns no credit (including copying out the question)

8. Assistant Examiners will email a brief report on the performance of candidates to your Team Leader (Supervisor) by the end of the marking period. Your report should contain notes on particular strength displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.

9. **Annotations**

Annotation	Meaning
	Tick – correct answer
	Cross – incorrect answer
	Plus – use for positives
	Minus – use for negatives
L1	Level 1
L2	Level 2
L3	Level 3
BOD	Benefit of doubt (This **does** count as a mark – so do not 'tick' as well)
^	Omission mark
V	Too vague
R	Repeat
or	Noted but no credit given

10. **Subject-specific marking instructions**

For answers marked by levels of response:

a. **To determine the level** – start at the highest level and work down until you reach the level that matches the answer

b. **To determine the mark within the level**, consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

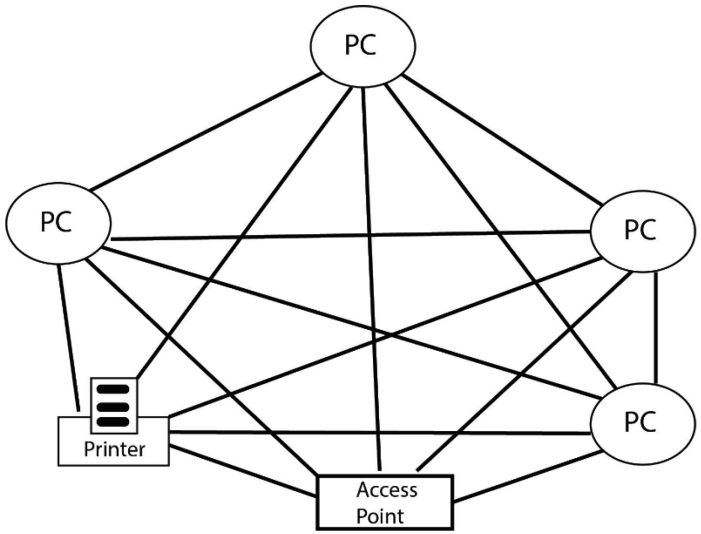
Question		Answer	Marks	Guidance
1		**D**	1	Solid state drive
2		**D**	1	Microwave
3		**C**	1	Router
4		**B**	1	Kibi, Gibi, Tebi, Pebi
5		**A**	1	10000110
6		**A**	1	Combine data to make business decisions
7		**C**	1	Multimedia
8		**D**	1	Supports more than one profile
9		**C**	1	Software patch
10		**C**	1	Reduces the amount of physical storage needed
11		**D**	1	PSTN
12		**B**	1	Letter
13		**D**	1	Numerical Skills
14		**D**	1	Use of information
15		**A**	1	Eavesdropping

Question		Answer	Marks	Guidance
16	(a)	• Monitor /Touchscreen(1st) to view information (1) • Printer/ Fax (1st) to produce hardcopies of letters (1) • Speaker (1st) to listen to conference calls (1) • Headphones/ Headset (1st) to listen to training (1) • Projector(1st) to view presentations with (1) • Any other valid suggestion	4	Two marks per output device 1st mark identification of the device 2nd mark for description of device DNA description without identification
	(b)	Fibre channel port • To connect computer servers (1) shared storage devices (1) • To allow high-capacity data transfer (1) through switches (1) Graphics card • To generate/ render imagery (1) that is displayed on an output device (1) • To convert data (1) into images viewed by the user (1) • To take pressure off the CPU (1) by processing the graphics data (1) Power supply • To convert AC current (1) into DC current (1) • To receive power from the mains (1) and convert it into a current that the computer can use (1)	6	Two marks for the purpose of each component. Please do not accept display for the first mark (the monitor displays not the graphics card)

Question		Answer	Marks	Guidance
17*		**Indicative Content** **Advantages** • Designed for specific business needs • Only contains software aspects needed • No extra 'bloatware' included • No ongoing licencing fees as paid for when developed • More secure than other types as only designed for AAA so less chance source code being obtained • Can be scaled up/down easier than off- the- shelf software • Competitive advantage **Disadvantages** • Costly to develop in first place • Have to wait for development to take place - not ready straight away • Dependant on single developer for support • Any changes/upgrades need to be carried out by original developer • Requires more training	10	**Level 3 [7- 10 marks]** The learner has **explained** the advantages **and** disadvantages to AAA of installing and using bespoke software in context. More than one advantage and disadvantage will have been discussed. Subject specific terminology and knowledge will be clearly used to support and inform the discussion. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 [4 – 6 marks]** The learner has **described** the advantages(s) **and / or** disadvantages(s) of AAA installing and using bespoke software. At the bottom of the mark band, the learner may describe generic aspects of bespoke software. *There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.* **Level 1 [1 – 3 marks]** The learner has **identified** generic points in relation to bespoke software. At the bottom of the mark band, the learner may have simply provided a single point. Subject specific terminology may be limited or missing.

Question		Answer	Marks	Guidance
				The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear. **0 marks = Nothing worthy of credit.**
18		• Data duplication can take place easier (1) than in other software that is more suitable (1) • The file size can require large data storage space (1) due to possible excess/duplicate data (1) • Searching the data is time consuming (1) when the dataset it large (1) • There is a risk of input/ human error (1) through manual input (1) • Any other valid suggestion	2	Two marks for detailed explanation DNA answer such as difficult to use or hard to understand.
19	**(a)**	• Devices share access (1) to all the files (1) and devices (1) • Access rights are controlled by sharing permissions (1) on individual machines (1) • If one computer runs slowly (1) the whole network runs slowly (1) • If one computer fails (1) the other computers still operate (1) • Each computer must be backed up (1) individually (1) • It does not need a dedicated server (1) to share data/ peripherals (1) • Any other valid suggestion	4	Two marks per characteristic

Question		Answer	Marks	Guidance
	(b)	ADSL • Single line (1st) uses both (1) data <u>and</u> voice transmission (1) • Speed (1st) of data transfer varies (1) between operators (1) • Data transmission channel/upload (1st) data reception channel/download (1) used to split the data traffic (1) • Data transmission channel/upload (1st) data reception channel/download (1) Telephone channel / voice (1) • Contended (1st) when more systems connected (1) network slows down (1) ISDN • Digital connection standards (1st) for voice/video/data (1) at faster speeds/higher quality (1) • Data and voice can be sent simultaneously (1st) using digital or ordinary phone lines (1) allowing high data volumes (1) • B channel/ voice/data (1st) D channel/ control signals (1) H channel /video/videoconference (1) • Uncontended (1st) network not shared (1) and so security is improved (1)	6	Three marks per connectivity 1st mark identification of characteristic 2nd and 3rd marks for detailed expansion DNA description without identification Description must be specific to the characteristic identified so generic answers are TV
	(c)	• Access point/IP router (1) linking one computer on a network (1) to a computer on another network (1) • Node on a network (1) that forward data (packets) (1) to other networks (1) • Any other valid suggestion	3	Three marks for suitable explanation

Question		Answer	Marks	Guidance
20	(a)	• 4 PCs (1) • Printer (1) • Access Point (1) • ALL devices connected to each other/5 connections each (1) Possible answer:  	4	Diagram symbols are not dictated so any symbols/wording is acceptable
	(b)	**Advantages** • All nodes/devices are separately connected (1) to all other nodes (1) • If one node breaks (1) rest of system can continue as if nothing has happened (1) • Because all devices are separately connected (1) fault finding on network is easier (1) • Addition of new nodes/devices (1) does not disrupt the transmission of data (1)	2	Two marks for suitable advantage

Question		Answer	Marks	Guidance
		• High traffic volume can be accommodated (1) as data can be routed via different pathways (1) • Better/ more stable connection (1) than a wireless network (1) • More secure (1) than a wireless network (1) • Any other valid suggestion		
21	(a)	**Indicative Content** • Train employees regarding how to use the information • Implement policies about how the information should be used/stored/handled • Implement use of access rights to the information as to who can view/edit the information • Implement and regularly update risk assessments for the computer system • Install range of physical and logical security methods to protect the information	10	**Level 3 [7- 10 marks]** The learner has **explained** how AAA can improve the security of its information in context. Subject specific terminology and knowledge will be clearly used to support and inform the discussion. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.* **Level 2 [4 – 6 marks]** The learner has **described** how AAA can improve the security of it information in context. At the bottom of the mark band, the learner may describe generic aspects of the security of information. *There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.*

Question		Answer	Marks	Guidance
				Level 1 [1 – 3 marks] The learner has **identified** generic points in relation to the security of information. At the bottom of the mark band, the learner may have simply provided a single point. Subject specific terminology may be limited or missing. *The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.* **0 marks = Nothing worthy of credit.**
	(b)	• To inform staff in AAA (1) of what they are permitted to do on the company system (1) • To inform the staff use the system for work purposes (1) and do not use it for social loafing activities (1)	2	Two marks for explanation of need for an AUP
22	**(a)**	• Meeting (1st) with a client (1) to discuss an advertising campaign (1) • Telephone conversation (1st) with staff in another office (1) to discuss development of the network (1) • Group/Team discussion (1st) of the IT Support team (1) regarding issues on the computer system installation (1) • Job interview (1st) in the asking of questions (1) when employing a new network manager (1) • Talking to (1st) a co-worker (1) about an issue (1) • Any other valid suggestion	6	Three marks per verbal skill 1st mark identification of use of skill 2nd and 3rd marks for detailed expansion DNA description without identification Description must be specific to the use of verbal skill identified so generic answers are TV

Question		Answer	Marks	Guidance
	(b)	• Leadership (1st) so that they can motivate (1) the team of technicians in the IT support team (1) • Dependability (1st) that they will do everything they can (1) to meet the need of the business when managing the computer system (1) • Problem solving skill (1st) so that when there is a technical issue with the system (1) they are able to work the issue through and find a solution (1) • Verbal skills (1st) so that they can explain non-technical and technical issues (1) to different audiences that they must deal with (1)	6	Three marks per personal attribute 1st mark identification of personal attribute 2nd and 3rd marks for detailed expansion DNA description without identification Description must be specific to the personal attribute identified so generic answers are TV the specification includes the following additional attributes only: • Numerical skills • Self-motivation • Respect • Independence • Time management • Team working • Written skills • Planning • Organisation • Punctuality • Determination Communication skills TV

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