Chhetri Academy
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GCSE COMPUTER SCIENCE

4.1

Edexcel 1CP2 | Specification point 4.1.6

(Ethernet, Wi-Fi, TCP/IP, HTTP, HTTPS, FTP) and email protocols (POP3, SMTP, IMAP)

Untiered

Answers and examiner comments

1	2021	Untiered
question groups	available papers	tier

Using this booklet

1. Answer numbers match the companion question booklet.
2. Follow the original question number on marking tables.
3. Examiner comments are included where available.

Name _____ **Date** _____

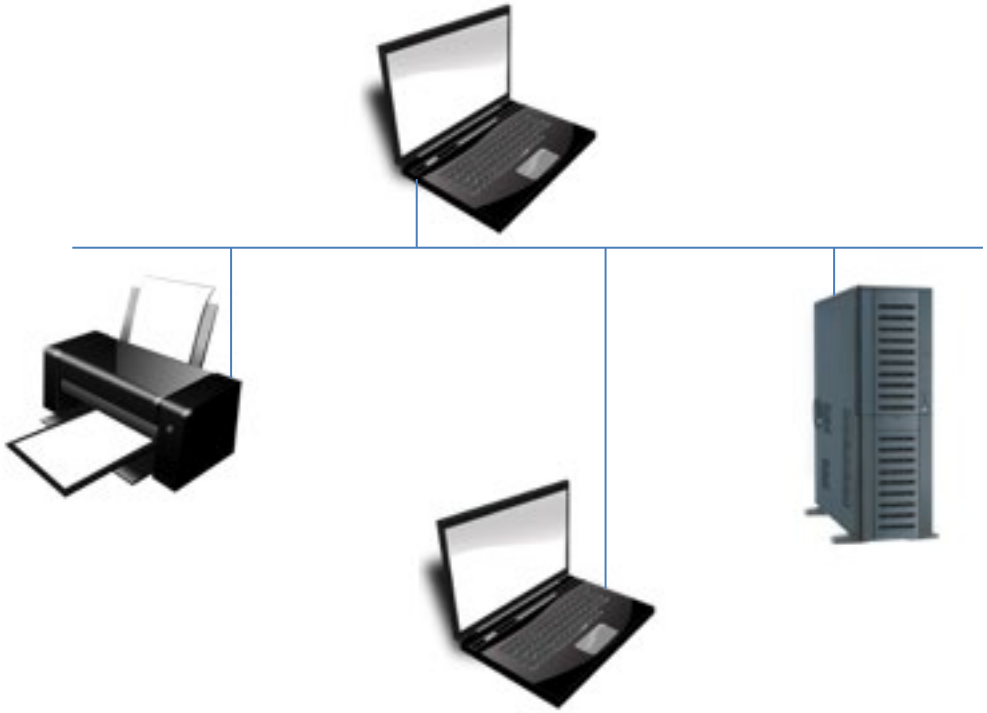
Some entries use full source marking material in an appendix. Any unavailable mark schemes are identified beside the relevant answer.

Question Number	Answer	Additional Guidance	Mark
7(a)	C		**1**

Question Number	Answer	Additional Guidance	Mark
7(b)	An explanation to include **two** from: • IMAP retains the data on a server (1) which can be read by any computer (1) • POP3 downloads the data to the client (1) so it would not be available from a different computer (1)		**2**

Question Number	Answer	Additional Guidance	Mark
7(c)	A linked description to include **four** from: Splits the data into packets (1) and numbers them (1) using a checksum (1) to see if packets have been delivered correctly (1) to avoid error/data corruption detection (1) before reordering them at their destination (1) Award other linked points such as: resends packets if found to be corrupt/missing on arrival (1) handles handshaking and transmission details (1) establishes a dedicated channel between source and destination devices (1) communicates with the application layer above and the network layer below (1)		**4**

Question Number	Answer	Additional Guidance	Mark
7(d)	Responds to incoming client requests (1) by supplying a service/resource (1) Examples: File/web/mail/database server (1) stores resources (data/files) and delivers (data/files) / manages requests (for data/files) (1) Print server (1) manages requests for print jobs (1)		**2**

Question Number	Answer	Additional Guidance	Mark
7(e)	Single line not directly connected to any device (bus) (1) single lines connecting each device to bus (1) 		**2**

Question Number	Indicative content
8	• Validation and authentication techniques (access control, physical security and firewalls) • Security issues associated with the 'cloud' and other contemporary storage • Different forms of cyberattack (based on technical weaknesses and behaviour) including social engineering (phishing, shoulder surfing), unpatched software, USB devices, digital devices and eavesdropping • Methods of identifying vulnerabilities including penetration testing, ethical hacking, commercial analysis tools and review of network and user policies • How to protect software systems from cyber-attacks, including considerations at the design stage, audit trails, securing operating systems, code reviews to remove code vulnerabilities in programming languages and bad programming practices, modular testing and effective network security provision

Level	Mark	Descriptor
	0	No rewardable content
Level 1	1-2	Basic, independent points are made showing elements of knowledge and understanding of key concepts/principles of computer science. The discussion will contain basic information with little linkage between points made.
Level 2	3-4	Demonstrates adequate knowledge and understanding of key concepts/principles of computer science. The discussion shows some linkages and lines of reasoning with some structure.
Level 3	5-6	Demonstrates comprehensive knowledge and understanding by selecting relevant knowledge and understanding of key concepts/principles of computer science to support the discussion being presented. The discussion shows a well-developed, sustained line of reasoning which is clear, coherent and logically structured.