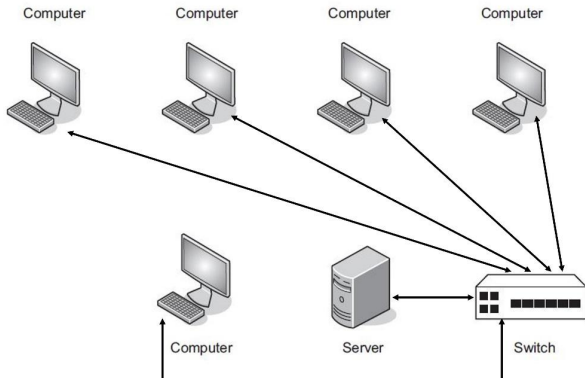


7(a)	1 mark for each correct description, max 2 marks						
	<table><tr><th>Type of IP address</th><th>Description</th></tr><tr><td>Static</td><td>IP address that does not change each time a device connects to the network</td></tr><tr><td>Public</td><td>IP address assigned to a device on a network to allow the device to be visible on the internet</td></tr></table>	Type of IP address	Description	Static	IP address that does not change each time a device connects to the network	Public	IP address assigned to a device on a network to allow the device to be visible on the internet
	Type of IP address	Description					
	Static	IP address that does not change each time a device connects to the network					
Public	IP address assigned to a device on a network to allow the device to be visible on the internet						
7(b)	1 mark per bullet point for justification, max 2 marks						
	Choice: Invalid (no mark for the choice) Justification: - It is not IPv4 because the maximum denary value should be 255, this uses 256 - It is not IPv6 because it uses a full stop to separate sections and not colon // It is not IPv6 because there are not enough groups						
7(c)	1 mark per bullet point, max 4 marks						
	- The browser checks its cache for the URL - The browser parses the URL and splits it into its component parts - The browser finds the IP address for the domain name by querying a DNS server - The browser receives the matching IP address from the DNS server - The browser creates connection with the web server with the matching IP address - A request for the resource is sent to the web server with that IP address - The browser renders and displays the result - The IP address is stored in the browser cache for future use						
7(d)(i)	1 mark for the working 1 mark for the correct answer						
	Working: $(512 * 2048 * 8) / (8 * 1024) // (512 * 2048) / 1024$ $// (2^9 * 2^{11} * 2^3) / (2^3 * 2^{10}) // (2^9 * 2^{11}) / 2^{10}$ Answer: 1024 kibibytes // 2¹⁰ kibibytes						
7(d)(ii)	1 mark per bullet point, max 2 marks						
	- The file will contain metadata - The file will have a header						
7(d)(iii)	1 mark per bullet point, max 2 marks						
	- Sequences of consecutive identical colours / pixels ... are stored as the colour value and the number of times it occurs consecutively						

5(a)	1 mark per bullet point, max 2 marks - Covers a small geographical area - Normally privately owned / dedicated infrastructure - Can use wired or wireless communication
5(b)	1 mark per bullet point, max 2 marks - All computers directly connected to switch and no other connections - Switch connected directly to server 
5(c)	1 mark per bullet point, max 3 marks - The sending device sends the packets to the switch - The switch checks the destination address on each packet ... and sends them only to the intended receiver
5(d)	1 mark per bullet point, max 3 marks - The use of <u>CSMA/CD</u> // Carrier Sense Multiple Access with Collision Detection - The workstations listen to the communication channel ... and send data only when there is no data being transmitted / the line is idle - If a collision is detected, transmission is aborted ... and a jamming signal is sent - The workstation calculates a random wait time before trying to re-transmit - The random time is increased if there are multiple collisions

5(e)

1 mark for correct threat
1 mark corresponding description
1 mark for correct method of prevention

Threat	Description	Prevention
Malware / Virus	Malicious code that can alter/delete files	Anti-virus // Anti-malware // Firewall
Spyware	Records keystrokes which are sent to third party	Anti-spyware // Firewall // Anti-malware
Hacking	Gaining <u>unauthorised</u> access to a computer network / device	Authentication // Firewall
Phishing	<u>Emails</u> supposedly from reputable companies are sent to trick people into revealing personal information	Use a spam filter // Do not open emails from unknown sources
Pharming	Users are directed to a bogus <u>website</u> that looks legitimate to obtain personal information	Use a VPN // Anti-malware// Do not open links or download attachments

8(a)(i)

1 mark per bullet point, **max 2** marks

- Cloud storage can be free of charge for a limited amount
- There is no need for personal storage devices
- The data can be accessed from any computer **with an internet connection**
- Cloud data services usually include data backup and recovery services
- It is easier to share data / collaborate with colleagues
- Cloud storage capacity can be quickly and easily increased if needed

8(a)(ii)

1 mark per bullet point, **max 2** marks

- The storage/cloud can only be accessed with an internet connection
- There may be no backups // possibly no control over backups // reliance on third party for backups
- Uploading / downloading data could take a long time
- Potential issues with the cloud storage company impacting access e.g. downtime or technical problems
- Potential compatibility issues if wanting to move the data
- Limited storage availability without paying extra
- ... meaning (possibly) more expensive in the long term
- Possibly security issues

8(b)(i)

1 mark per bullet point, **max 4** marksMethods to determine point of touch (**Max 2**)

- Resistive // two layers of material make contact and complete a circuit
- Capacitive // contact with the screen creates a change in charge
- Infrared // the beams are broken by the pointing device
- Optical imaging // a shadow is created when the surface is touched
- Acoustic pulse // the acoustic wave is absorbed by the pointing device
- Selection from the menu (**Max 2**)
- The point of touch is used to determine the x and y coordinates
- The menu item corresponding to the coordinate position is recognised and the menu item is added to the order

8(b)(ii)

1 mark per bullet point, **max 2** marks

- Disk repair / disk contents analysis
- Back-up software