



**Paper 1: Theory**

**Sample Paper**

**1 hour 30 minutes**

**Marking Scheme**

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| Q No.    | Suggested Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Marks |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 1 a      | <p>Network Interface Card (NIC) and Default Gateway</p> <p>NIC – any two of the following:</p> <ul style="list-style-type: none"> <li>• A hardware component that enables a computer to connect to a network.</li> <li>• Provides a unique identifier (MAC address) for the device.</li> <li>• Facilitates wired or wireless communication.</li> </ul> <p>Default Gateway – any two of the following:</p> <ul style="list-style-type: none"> <li>• A router or network node that serves as an access point to external networks.</li> <li>• Directs data packets between different networks.</li> <li>• Essential for internet connectivity in a LAN.</li> </ul> | 4     |
| 1 b (i)  | <p>Three advantages of wireless connectivity over wired</p> <p>Any three from:</p> <ul style="list-style-type: none"> <li>• No need for physical cables, reducing clutter.</li> <li>• Allows devices to be portable and moved freely.</li> <li>• Easier to connect multiple devices without additional hardware.</li> <li>• Reduces installation costs.</li> </ul>                                                                                                                                                                                                                                                                                               | 3     |
| 1 b (ii) | <p>Reasons for using Wi-Fi instead of infrared</p> <p>Any two from:</p> <ul style="list-style-type: none"> <li>• Wi-Fi has a longer range compared to infrared.</li> <li>• Wi-Fi supports multiple devices simultaneously, whereas infrared requires direct line-of-sight.</li> <li>• Wi-Fi provides higher data transfer speeds.</li> <li>• Wi-Fi allows encryption for secure data transmission.</li> </ul>                                                                                                                                                                                                                                                    | 2     |
| 1 c      | <p>Factors to consider before allowing student internet access</p> <p>Any two from:</p> <ul style="list-style-type: none"> <li>• <b>E-safety</b> – Ensuring students do not access harmful content.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2     |

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|           | <ul style="list-style-type: none"> <li>• <b>Filtering &amp; Monitoring</b> – Implementing web filtering tools to restrict inappropriate websites.</li> <li>• <b>Data Security</b> – Preventing cyber threats such as phishing or malware.</li> <li>• <b>Ethical Considerations</b> – Ensuring responsible use of online resources.</li> </ul>                                                                                                    |   |
| 1 d       | <p>Four key features of an online learning platform</p> <p>Any four from:</p> <ul style="list-style-type: none"> <li>• Ability to upload/download study materials.</li> <li>• Online assessment tools (quizzes, exams).</li> <li>• Discussion forums for collaboration.</li> <li>• Messaging system for communication with teachers and peers.</li> <li>• Student progress tracking and reports.</li> <li>• Secure user login system.</li> </ul> | 4 |
| 2 a (i)   | <p>Two additional cyber threats</p> <p>Any two from:</p> <ul style="list-style-type: none"> <li>• <b>Malware</b> – Software designed to damage or disrupt a system.</li> <li>• <b>Phishing</b> – Fraudulent attempts to obtain sensitive information.</li> <li>• <b>Data corruption</b> – Accidental or intentional damage to data files.</li> <li>• <b>Power failure</b> – Sudden loss of power that may lead to data loss.</li> </ul>          | 4 |
| 2 a (ii)  | <p>Improving password security</p> <p>Any three from:</p> <ul style="list-style-type: none"> <li>• Use a combination of uppercase and lowercase letters.</li> <li>• Include numbers and special characters.</li> <li>• Increase the length of the password.</li> <li>• Avoid using common words or predictable sequences.</li> </ul>                                                                                                             | 3 |
| 2 a (iii) | <p>Additional security measures</p> <p>Any two from:</p> <ul style="list-style-type: none"> <li>• <b>Two-factor authentication (2FA)</b> – Adds an extra layer of security.</li> </ul>                                                                                                                                                                                                                                                           | 4 |

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|     | <ul style="list-style-type: none"> <li>• <b>Data encryption</b> – Secures sensitive information from unauthorised access.</li> <li>• <b>Firewall</b> – Monitors and controls incoming and outgoing network traffic.</li> <li>• <b>Regular backups</b> – Ensures data can be recovered in case of an attack.</li> </ul>                                                                                                                                                   |   |
| 2 b | <p>Secure online payments</p> <p>Any two from:</p> <ul style="list-style-type: none"> <li>• Use of <b>SSL/TLS encryption</b> to secure transactions.</li> <li>• Implementation of <b>secure payment gateways</b> like PayPal.</li> <li>• Two-step verification for online purchases.</li> <li>• Compliance with <b>PCI DSS (Payment Card Industry Data Security Standard)</b>.</li> </ul>                                                                                | 2 |
| 2 c | <p>Benefits of social media for business promotion</p> <p>Any four from:</p> <ul style="list-style-type: none"> <li>• <b>Wider audience reach</b> – Ability to market to global customers.</li> <li>• <b>Cost-effective advertising</b> – Low-cost marketing campaigns.</li> <li>• <b>Customer engagement</b> – Direct interaction with customers.</li> <li>• <b>Brand awareness</b> – Increased recognition through digital presence.</li> </ul>                        | 4 |
| 2 d | <p>Legal responsibilities for storing personal data</p> <p>Any three from:</p> <ul style="list-style-type: none"> <li>• <b>Data must be stored securely</b> – Prevent unauthorised access.</li> <li>• <b>Must comply with data protection laws</b> – Such as GDPR.</li> <li>• <b>Data should be collected for a legitimate purpose</b> – Clearly stated to customers.</li> <li>• <b>Users should have access to modify or delete their data</b> upon request.</li> </ul> | 3 |
| 3 a | <p>Advantages of messaging apps</p> <p>Any two from:</p>                                                                                                                                                                                                                                                                                                                                                                                                                 | 4 |

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|          | <ul style="list-style-type: none"> <li>• <b>Instant communication</b> – Send and receive messages in real-time.</li> <li>• <b>Multimedia sharing</b> – Ability to send images, videos, and files.</li> <li>• <b>Group messaging</b> – Chat with multiple people at once.</li> </ul>                                                                                                                                                                            |   |
| 3 b      | <p>Purpose of an Acceptable Usage Policy (AUP)</p> <p>Any two from:</p> <ul style="list-style-type: none"> <li>• Defines appropriate online behaviour.</li> <li>• Helps prevent cyberbullying and misuse.</li> <li>• Protects users from security risks.</li> </ul>                                                                                                                                                                                            | 2 |
| 3 c      | <p>Four factors to consider before upgrading a smartphone</p> <ul style="list-style-type: none"> <li>• <b>Cost</b> – Budget and affordability.</li> <li>• <b>Hardware specifications</b> – Processor speed, RAM, storage.</li> <li>• <b>Software compatibility</b> – Whether it supports the latest OS updates.</li> <li>• <b>Environmental impact</b> – Disposal and recycling of the old device.</li> </ul>                                                  | 8 |
| 4 a      | <p>Definition of a Peripheral Device</p> <p>A hardware device that is <b>externally connected</b> to a computer to enhance functionality (e.g., keyboard, printer).</p>                                                                                                                                                                                                                                                                                        | 1 |
| 4 b (i)  | <p>Features of a touchscreen interface</p> <p>Any two from:</p> <ul style="list-style-type: none"> <li>• Supports <b>gesture-based interaction</b>.</li> <li>• Eliminates need for a physical keyboard or mouse.</li> <li>• Provides an <b>intuitive</b> and easy-to-use interface.</li> </ul>                                                                                                                                                                 | 2 |
| 4 b (ii) | <p>Benefits and drawbacks of CLI over GUI</p> <p><b>Benefits (any two):</b></p> <ul style="list-style-type: none"> <li>• <b>More efficient for advanced users</b> – Commands can execute tasks quickly.</li> <li>• <b>Requires less system resources</b> – No graphical elements to process.</li> </ul> <p><b>Drawback (any one):</b></p> <ul style="list-style-type: none"> <li>• <b>Difficult for beginners</b> – Requires knowledge of commands.</li> </ul> | 6 |

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| 4 c      | <p>Two risks of not updating software</p> <p>Any two from:</p> <ul style="list-style-type: none"> <li>• <b>Security vulnerabilities</b> – More susceptible to malware and hacking.</li> <li>• <b>Compatibility issues</b> – Older software may not support new file formats or hardware.</li> </ul> | 4 |
| 5 a (i)  | <p>Two correct statements about memory</p> <p><input checked="" type="checkbox"/> A. RAM is temporary storage; ROM is permanent storage.</p> <p><input checked="" type="checkbox"/> C. RAM can be upgraded; ROM cannot be modified.</p>                                                             | 2 |
| 5 a (ii) | <p>Two characteristics of an SSD</p> <ul style="list-style-type: none"> <li>• <b>Non-volatile storage</b> – Retains data without power.</li> <li>• <b>No moving parts</b> – More durable and reliable.</li> </ul>                                                                                   | 2 |
| 5 b      | <p>How upgrading a processor improves performance</p> <ul style="list-style-type: none"> <li>• <b>Higher clock speed</b> – Executes more instructions per second.</li> <li>• <b>Improved multitasking</b> – Faster processing of applications.</li> </ul>                                           | 2 |
| 5 c (i)  | <p>One benefit of cloud storage</p> <ul style="list-style-type: none"> <li>• <b>Remote access</b> – Files can be accessed from any location with internet connectivity.</li> </ul>                                                                                                                  | 2 |
| 5 c (ii) | <p>One drawback of cloud storage</p> <ul style="list-style-type: none"> <li>• <b>Dependence on internet connection</b> – No access if the connection is lost.</li> </ul>                                                                                                                            | 2 |