GRADE 10 TERM 3 STUDY NOTES

BY SIRANTWI

Network Technologies – PAN and HAN

Concept	Description
PAN (Personal Area Network)	A small network used for connecting personal devices over a short range (about 10 meters). Often used by one individual.
HAN (Home Area Network)	A network within a home connecting personal and shared devices (smartphones, laptops, printers, TVs).

Uses of PAN/HAN

- Share files, media, internet, and printers between devices at home.
- Easier communication
- Connect smart home devices (lights, security, entertainment).

What is needed to create a PAN/HAN?

Component needed	Purpose
Router	A device that connects two or more networks together
Modem	Connects devices to the internet (via telephone or fibre).
Switch	A device that connects two or more computers together
Cables/Wi-Fi	Used as the communication channel/media between devices.
Devices	PC, smartphone, smart TV, printer, etc.

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Advantages of PAN/HAN

- Sharing of software
- Share a single high-speed Internet connection.
- Access files and programs on other computers on the network.
- Share other hardware devices such as a printer or a scanner.
- Play computer games against each other.
- Use the network connection for voice conversations.
- Transfer pictures, music or other data from one device to another.
- Synchronise data between two devices.

Disadvantages / Limitations of PAN/HAN

- Limited range
- Slows down with too many devices
- Security risks if not password-protected

Network Devices – Modem, Router, Switch

Device	Function / Purpose	Example / Use Case
Modem	A modem enables computers to send and receive data via a telephone line, fibre or cable. **Modem** stands for **mod**ulator **dem**odulator.	Used to access the internet from your ISP.
Router	Connects two or more networks together.	Sends Wi-Fi signal to your devices.
Switch	Connects multiple devices/ computers in a wired network	Used in LANs to link PCs in a school or office.

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Communication Channels / Media

Type	Description / Use
Wired (Ethernet)/UTP	Uses cables (e.g. CAT5, CAT6) for fast, stable connections.
Wireless (Wi-Fi, Bluetooth)	Uses radio waves/Microwaves to connect devices without cables.
Fibre Optic	High-speed data transmission using light pulses through glass strands.

Connecting a PC to the Internet – Hardware & Software

Required	Purpose
Modem	Connects to the internet through the ISP.
Router	Shares the connection with multiple devices.
Network Interface Card (NIC)	Built into the PC/laptop to connect via LAN or Wi-Fi.
Operating System	Supports network drivers and configurations (e.g. Windows).
Web Browser	Allows the user to access websites on the WWW (e.g. Chrome, Edge).
Communication channel	Cabled (UTP/Fibre optic) Wireless
Internet Service Provider (ISP)	An ISP is a company that has a permanent, fast connection to the Internet at a monthly fee. ISPs prefer to charge a monthly fee for the connection, but prepaid packages are available.

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What is the Internet (Interconnected Network)?

- A **global network** of connected computers and devices.
- Allows the sharing of **information, services, and communication** worldwide.
- Works through **IP addresses**, **servers**, and **data packets**.
- It is used for communication, such as ***e-mail,*** and ***access to information*** or ***entertainment***
- A hotspot is wireless Internet connectivity in a public area, such as an airport.
- Users can access the Internet using mobile devices such as laptops.

What is the World Wide Web (WWW)?

- A **service on the Internet** that allows access to linked documents (web pages).
- It provides access to files from a huge collection of documents on computers all across the world
- Uses **HTTP** protocol and **web browsers**.
- Made up of websites that include text, images, videos, links.

Web Terminology

Term	Definition
Web Address / URL	A unique address to access a webpage (e.g. https://www.google.com) URL stands for ***uniform resource locator*** and is a unique Internet address for each webpage/website
URL Shortener	A tool that converts long URLs into shorter links (e.g. bit.ly, tinyurl.com)
Website	A collection of web pages under one domain (e.g. www.wikipedia.org)
Web Page	A single document/page on the internet.
Hyperlink	A clickable text, image, or button that redirects to another page, file, or website. Links can take the form of: ● *blue underlined text*

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Term	Definition
	● *text that is not underlined but in bold or in a different font colour* ● *images, such as photos or logos* ● *items in a menu list.*
Web Server	A web server is a computer that hosts a website.
Homepage	A Homepage is the main page of a website. Generally, it is the first page displayed when the website is accessed
Multimedia	A combination of text, images and audiovisual files.
HTML	Hypertext markup language (HTML) is used to create webpages.
Web browser	A web browser is an application that displays webpages on your computing device. Examples of web browsers are ***Google Chrome, Mozilla Firefox, Internet Explorer, Safari and Opera***
Search Engine	A search engine is a website that searches the Internet for information based on a word or phrase that you enter. The search engine displays links to websites that contain the word or phrase you entered. ● Examples of search engines are ***Google, Yahoo, Ananzi and Aardvark (South African).***
Tabbed browsing	A tabbed browsing interface (TBI) allows you to have several pages open on one browser window. A TBI: ● makes it easy to switch between pages ● keeps a specific page open while opening a link on a new tab ● allows you to go back to a previous webpage without using the back button.
Downloading	Download transfers files from a web server to your computer
uploading	Upload transfers files from your computer to a web server

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Basic Browsing and Tabbed Browsing

Concept	Description / Purpose
Basic Browsing	Using a web browser (like Chrome, Firefox, or Edge) to access and navigate websites. Includes entering URLs, clicking hyperlinks, using back/forward buttons, and bookmarks.
Tabbed Browsing	A browser feature that allows users to open multiple web pages in one window, each in a separate tab.

Advantages of Tabbed Browsing

Advantage	Explanation
Multitasking	Users can switch between several websites without opening multiple browser windows.
Saves Screen Space	Keeps the desktop uncluttered with fewer open windows.
Improved Organisation	Users can group related web pages (e.g. research sources) into a single window.
Faster Navigation	Easy to move between tabs using keyboard shortcuts or mouse clicks.
Reduces System Load	Uses less RAM and CPU compared to opening separate browser windows.

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Search Engines

Concept	Explanation
Search Engine	A software tool or online service that helps users find information on the internet.
Purpose	To search, index, and retrieve web pages that match a user's query or keywords.
How It Works	Uses crawlers (bots) to scan the web, builds an index, and ranks pages based on relevance to queries.

Common Search Engines

Search Engine	Description / Use
Google	Most widely used; returns highly relevant results.
Bing	Microsoft's search engine with visual previews and rewards.
Yahoo!	One of the oldest; combines search, news, and email.
DuckDuckGo	Focuses on privacy; does not track user search history.
Ecosia	Uses ad revenue from searches to plant trees (eco-friendly).

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Search Techniques

Term	Description / Use	Example
Keywords	Important words that describe the topic you're searching for.	*recycling in South Africa*
Key Phrases	A group of words in quotation marks to find an exact phrase.	"effects of global warming"
Boolean Operators	Words like ***AND, OR, NOT*** used to narrow or expand search results.	cats AND dogs, school NOT fees
Search Filters	Limit results by time, region, file type, etc.	Use Google's tools like Past 24 hours
Site Search	Searches only within a specific website.	site:wikipedia.org Nelson Mandela

Search Engine Operators (Advanced Tools)

Operator	Function	Example
site:	Searches within a specific domain or site.	site:gov.za covid regulations
filetype:	Searches for specific file types (e.g., PDF, DOC).	filetype:pdf CAPS document
intitle:	Finds pages with keywords in the title.	intitle:climate change
"..." (Quotes)	Searches for exact phrases.	"Grade 10 CAT textbook"
- (Minus sign)	Excludes results containing a specific word.	apple -fruit

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Parts of an Internet Address (URL) – https://www.education.gov.za

Component	Description / Meaning	Examples
http	Hypertext Transfer Protocol – A set of rules used for transmitting web pages over the Internet.	Secure version: https (with encryption) https://www.google.com
www	World Wide Web – Indicates that the resource is part of the web (optional in modern web addresses).	Stands for "World Wide Web"
education	Domain Name – A word/phrase registered as the name of an internet site.	www.*educaion*.gov.za www.curro.co.za www.sirantwi.net
.gov	Top-Level Domain (TLD) – Indicates a ***government site.***	Often used with country codes like .gov.za
.com	**Commercial organisation or business.**	www.google.com
.ac	TLD – Academic institutions such as universities.	Common in the UK (e.g. ox.ac.uk)
.co	TLD – Company or commercial business.	Often seen with country codes (e.g. co.za)
.org	TLD – Non-profit organisations.	Example: www.wikipedia.org
.za	Country Code – Represents South Africa.	Often paired with .gov, .co, etc.
.au	Country Code – Represents Australia.	Example: www.abc.net.au
.uk	Country Code – Represents United Kingdom.	Used with .co.uk, .ac.uk, etc.
.de	Country Code – Represents Germany.	Used in German domains (e.g. www.spiegel.de)

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Types of Websites

Website Type	Purpose / Description	Examples
Portal Website	Provides links to various websites and services in one place.	Google, Yahoo
News Website	Offers articles on current events, weather, sports, politics, etc.	News24, CNN, BBC News SABC News
Information Website	Shares factual data for research and learning.	Wikipedia, Britannica
Business / Commercial	Promotes or sells products/services.	FlySAA, Takealot, Amazon
Personal Website	Created by individuals to showcase hobbies, interests, or resumes.	MyArtGallery.co.za, personal portfolio sites
Blog / Vlog	Online journal or video log sharing personal thoughts, stories, or topics.	somethoughts.blogspot.com, YouTube vlogs
Social Networking Site	Enables social interaction, group discussions, and sharing content with others.	Facebook, Twitter, Instagram
Entertainment Website	Provides online entertainment content like movies, games, music, etc.	Netflix, Spotify, Miniclip

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Website Type	Purpose / Description	Examples
Advocacy Website	Promotes causes, campaigns, or opinions of specific groups or organisations.	Greenpeace, Amnesty.org
Content Aggregator	Collects content on a topic from many sources and displays it in one place.	Popurls.com, Blogpulse.com
Wiki	Collaborative editing of content.	Wikipedia
Web Application	Online software accessed via a browser	Google space Office365 Google drive

ISP and E-Communication

Concept	Definition / Description	Purpose / What It Offers
ISP (Internet Service Provider)	A company that provides access to the internet for individuals, businesses, or organisations.	- Enables users to connect to the internet via fibre, DSL, mobile data, etc. - Examples: Telkom, Vodacom, Rain
E-Communication	The **exchange of information electronically** using digital devices and the internet.	- Fast, digital communication (e.g. email, messaging) - Can include text, audio, video
Communication Device	Hardware that allows a computer/device to send and receive data over a network.	- Enables internet access or connection between users *- Examples: Modem, router, network card*
E-communication using a PC	Involves using a computer and communication apps to **send, receive, or interact** with others electronically.	- Supports work, learning, collaboration, and remote meetings

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E-Communication Tools / Applications

Application Type	What It Is	Purpose / What It Offers	Examples
Email	Electronic mail sent via the internet.	- Send messages, documents, or media to individuals or groups	Gmail, Outlook, Yahoo Mail
Web Browser	A program used to access and navigate websites and web apps.	- Browse the web, access cloud services, open web-based messaging platforms	Chrome, Firefox, Edge
Instant Messaging (IM)	Real-time text-based conversation between users.	- Quick chatting, group discussions, emojis, file sharing	WhatsApp, Telegram, Signal
Text / Picture Messaging	Sending short messages and images via apps or SMS.	- Mobile-friendly communication with multimedia sharing	SMS, MMS, WhatsApp, Messenger
Video Messaging	Sending pre-recorded or live video clips to other users.	- Visual communication for updates, greetings, or instructions	Instagram DM, WhatsApp video clips
Online Meeting Platforms	Software that allows virtual face-to-face communication.	- Conduct meetings, classes, screen sharing, collaboration tools	MS Teams, Zoom, Skype, Google Classroom

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Differences Between Real-Time and Delayed-Time E-Communication

Aspect	Real-Time E-Communication	Delayed-Time E-Communication
Definition	Communication that happens instantly, with immediate response	Communication where responses occur after a delay
Interaction	Live, simultaneous interaction between users	Asynchronous interaction (not at the same time)
Internet Connection	Requires a stable internet connection for live interaction	Internet required, but not always needed at the same time
Speed	Instant delivery and response	Delivery and response can happen hours or days later
Examples	- Video calls (Zoom, Teams) - Voice calls (Skype, VoIP) - Live chat (WhatsApp, Messenger)	- Email - Discussion forums - Online forms/messages
Use Case	Urgent conversations, meetings, live teaching	Formal communication, reports, assignments
Advantages	- Immediate feedback - More personal interaction	- More time to think and respond - Messages can be archived
Disadvantages	- Needs both parties online - Dependent on bandwidth	- Delay in response - Less engaging than real-time tools

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Email as a Form of E-Communication

Topic	Description / Explanation	Examples / Notes
Email (Electronic Mail)	A method of sending messages and files digitally via the internet.	Used for formal and informal communication.
Taxonomy of Email Address	A standard email address consists of three parts:	username@domain.com e.g. sibongile@gmail.com For example: sibongile@mweb.co.za where: ● sibongile is the ***user name***, which is chosen by the user ● @ the symbol indicating an e-mail address ● mweb is the domain name of the ISP ● .co is the type of organisation ● .za is the geographic location.
	- **Username**: Unique ID/name for the user	sibongile
	- **@ symbol**: Separates user and domain	@
	- **Domain name**: The email provider's web address	gmail.com
ISP-based Email	Email linked to an internet service provider account. One can access the messages even when offline	user@telkomsa.net user@curro.co.za
Web-based Email	Email accessed through a browser from any device with internet. One has to be online before you can access your messages	Gmail, Yahoo Mail, Outlook.com e.g. Antwi199@gmail.com

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Email Software Features

Feature	Function / Purpose	Example
Cc (Carbon Copy)	Sends a copy of the email to additional recipients. ***Visible to all.***	Used to keep others informed.
Bcc (Blind Carbon Copy)	Sends a copy, but hides the other recipients' addresses.	Useful for privacy.
Attachments	Allows users to send files (documents, images, PDFs) with an email.	Click paperclip icon to attach files.
Address Book / Contacts	Stores frequently used email addresses and names.	Makes it easier to send emails quickly.
Flagging	Marks emails for follow-up or as important.	Shows a red flag or star beside email.

Basic Emailing Actions

Action	Description / Use
Compose Message	Create a new email by entering recipients, subject, message body, and attachments.
Send	Sends the email to the listed recipient(s).
Receive	Inbox shows new emails received.
Forward	Sends the email you received to someone else.
Reply	Responds to the sender of the email.
Reply to All	Responds to the sender and everyone listed in the Cc or To fields.

Other Email Tools

Tool / Concept	Function / Use	Notes / Example
Attachments	Include files with your email.	Avoid large files; zip files if needed.
Flagging	Prioritise or mark emails to follow up later.	Can be colour-coded or starred.

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Scan to Email	A feature on multifunction printers to scan documents directly to an email address.	Used in offices or schools to send documents fast.

Netiquette & Online Communication

Topic	Description / Explanation	Examples / Notes
Netiquette	A blend of "network" and "etiquette" — refers to **rules for polite and respectful behaviour when communicating online.**	Helps maintain a positive, safe digital environment.

General Netiquette Rules (Email & Social Media)

Rule	Why It's Important	Example
Use clear subject lines	Helps the recipient know what the message is about.	Subject: *Meeting Agenda for Friday*
Check spelling and grammar	Ensures your message is professional and easy to understand.	Use spell check before sending.
Be concise and to the point	Respects the reader's time and avoids confusion.	Don't write long, unclear messages.
Be polite and respectful	Avoids offending others and encourages positive communication.	Use "Please" and "Thank you."
Avoid TYPING IN CAPITAL LETTERS	ALL CAPS is seen as shouting.	Use sentence case instead.
Avoid gossip or offensive content	Prevents cyberbullying, conflict, or spreading false information.	Don't insult or spread rumours about others.
Credit sources	Acknowledges creators and avoids plagiarism.	Tag artists or cite articles.
Reduce large attachments	Saves bandwidth and makes emails quicker to open.	Compress files or use cloud links.

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Basic Use of Internet, Email, and Social Media

Platform	Basic Usage	Tips for Responsible Use
Internet Browsing	Search for information, visit websites, access cloud apps.	Use trusted websites, avoid clicking unknown links.
Email	Send/receive digital messages, attach files, communicate formally.	Use clear language, check recipient addresses before sending.
Social Media	Share content, communicate with friends/groups, join discussions.	Keep profiles private, don't overshare, think before posting.

Applying Netiquette in Practice

Activity	Apply These Netiquette Principles
Writing an Email	Use a greeting and sign-off, check spelling, keep it short, don't attach large files unnecessarily.
Posting on Social Media	Avoid CAPS, be kind, don't post or share offensive, false, or stolen content.
Sharing a Document or Link	Provide context, cite the source, and check the link works.

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Social Implications

Concept	Definition / Description	Examples / Notes
Digital Citizenship	Responsible and ethical behaviour when using technology and the internet.	Includes respecting others, using technology legally and safely.
Digital Footprint	The trail of data you leave behind when using the internet. ***Effects of digital footprint*** Your digital footprint can affect your privacy, reputation, and job/scholarship opportunities.	Includes search history, social media posts, location tags, and comments. Be mindful of what you post online.
POPI Act	**Protection of Personal Information Act** – A South African law that governs how personal data is collected and used.	Organisations/ schools must get your consent before using your personal information.
Recognising Ownership	Acknowledge creators of electronic content to avoid plagiarism and respect intellectual property.	• Always cite sources, • credit authors, • tag original creators.
Communication Etiquette	Following respectful communication norms in digital interactions.	• Use polite language, • avoid using ALL CAPS, • check spelling.
Safe Email and Internet Use	Using online tools while protecting your devices and personal data.	• Use antivirus software, • don't click unknown links, • use strong passwords.
Common Dangers	Viruses, phishing, scams, malware, identity theft.	Be cautious when downloading files or opening attachments.

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Cyber Threats

Threat	What It Is	Cause	Prevention
Virus	A malicious program that disrupts the normal function of the computer.	- Downloading infected files - Inserting infected USB drives	- Use antivirus software - Don't open unknown attachments - Update your OS and apps
Worm	A self-replicating program that spreads across networks without attaching to files.	- Unsecured networks - Downloading infected software	- Use firewalls - Keep your system updated - Use strong passwords and antivirus
Trojan	A program that hides within a genuine program or disguises itself to trick users into installing it.	- Downloading fake or pirated software - Clicking deceptive ads or attachments	- Avoid pirated software - Scan files before opening - Use trusted software sources
Spyware	Software that secretly collects information about a user without their knowledge.	- Downloading free software bundled with spyware - Visiting unsafe websites	- Use anti-spyware tools - Avoid suspicious downloads - Keep security settings updated
Hoax	A false message (usually via email or social media) intended to cause fear, confusion, or spread lies.	- Forwarding unverified messages - Believing fake stories or alerts	- Verify info before sharing - Educate users on spotting hoaxes - Use fact-checking websites
Spam	Unwanted, irrelevant, or unsolicited messages sent over the internet, typically via email.	- Subscribing to untrusted websites - Sharing your email publicly	- Use spam filters - Don't click spam links - Unsubscribe from unknown mailing lists

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Threat	What It Is	Cause	Prevention
Email Spoofing	When someone uses a **fake identity** (e.g., email, username, phone number) to pose as someone else to gain **unauthorised access** to information, systems, or networks.	- Clicking fake links or attachments - Fake sender addresses	- Check sender addresses - Avoid suspicious links - Use authentication protocols
Phishing	A fake email or message tricking you into giving away personal info like passwords or bank details.	- Clicking on fake links in emails or SMS - Fake websites imitating real ones	- Don't click on suspicious links - Check email sender address - Use spam filters
Scam	Fraud attempts to steal money or information, often through false promises or threats.	- Online "too good to be true" offers - Threatening messages or fake giveaways	- Be sceptical of deals and prizes - Report and block scammers - Use trusted websites
Malware	Malicious software (like spyware, ransomware, trojans) that harms or controls your computer.	- Downloading pirated software or files - Visiting unsafe websites	- Install anti-malware software - Avoid illegal downloads - Don't disable firewalls
Identity Theft	When someone steals your personal data (e.g. ID number, login credentials) to impersonate you.	- Weak passwords - Sharing personal info publicly - Phishing attacks	- Use strong, unique passwords - Don't overshare online - Enable 2-factor authentication

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Possible Symptoms of Malware Infection

1. **Unexpected messages or pop-ups**
    - Strange images, alerts, or error messages appear without any clear reason.
2. **Unknown programs or files appear**
    - New software or documents are installed or saved on the computer without your knowledge.
3. **Missing programs or files**
    - Existing files or applications suddenly disappear or are deleted without user action.
4. **Programs stop working properly**
    - Applications freeze, crash, or behave unpredictably.
5. **Slower system performance**
    - The computer takes much longer to start up, open files, or run tasks than usual.

Tips for Staying Safe Online:

- Think before you click!
- Keep all software and security tools up to date.
- Avoid oversharing personal information online.
- Use reputable antivirus and anti-malware programs.
- Always log out after using public/shared computers.

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Information Management & Processing

Concept	Definition / Description	Examples / Notes
Information vs Knowledge	- **Information**: processed data that has meaning. - **Knowledge**: Understanding or insight based on information.	**Info:** Stats on water use **Knowledge:** Realising there's a water crisis
Find and Access Data	Using search engines, surveys, and digital tools to locate information.	Use keywords, filters, and trusted sources.
Survey	A structured data collection process to gather opinions or facts.	Usually uses closed questions (e.g., Yes/No, multiple choice).
Questionnaire	A data collection tool, often paper-based or online, with both open- and closed-ended questions used to conduct survey.	Allows more detailed responses.
Difference (Survey vs Questionnaire)	A questionnaire is a **tool** used to conduct a **survey**.	A survey is the overall process; the questionnaire is the instrument.
Sifting Information	Reviewing and selecting only the data that is relevant to your goal or criteria.	Ignore irrelevant or outdated sources when doing a project.

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GRADE 10 TERM 3 ACTIVITIES

ACTIVITY 1

Question 1: Multiple Choice (10 × 1 = 10 marks)

Choose the correct answer. Only write the **letter** (A–D) of your selected answer.

1.1 Which one of the following will **not** be classified as a computing device?
A. Computer
B. Server
C. Cable
D. Laptop

1.2 A powerful central computer in a network is called a:
A. Server
B. Workstation
C. Peer
D. None of the above

1.3 Which one of the following is **not** an example of an administrator's task?
A. Adding new users to the network
B. Changing passwords that users have forgotten
C. Adding restrictions on certain files/folders
D. All of the above are administrator tasks

1.4 What is an EFT?
A. A security protocol on the Internet
B. A new type of e-mail
C. An electronic fund transfer
D. None of the above

1.5 A virus is classified as:
A. Hardware
B. Software
C. None of the above
D. Both hardware and software

1.6 Rules that restrict the use of computer equipment in a company are referred to as:
A. CPU
B. AUP
C. ISP
D. CSI

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1.7 Which one of the following is a large network covering a wide geographical area?
A. WAN
B. LAN
C. PAN
D. HAN

1.8 Which of the following is a company that provides an Internet connection to users?
A. RSI
B. URL
C. ISP
D. CTS

1.9 Which of the following devices can connect networks together?
A. Router
B. Connector
C. Modem
D. Server

1.10 Which of the following is a wireless communication medium?
A. USB
B. Infra-red
C. Bluetooth
D. Both B and C

ACTIVITY 2 Question 2: Terminology – Matching Columns (8 × 1 = 8 marks)

Match the descriptions in **Column A** with the correct term from **Column B**.
Write only the **letter (A–L)** next to each question number (2.1–2.8).

Column A (Description)		**Column B (Term)**
2.1 Collection of computers connected via a communications medium		A. Server
2.2 Device used to change data into analogue signals		B. Virus
2.3 Computers that have equal rights on a network		C. Router
2.4 Central location where security rights are managed		D. Printer
2.5 Rules for using a computer in a workplace		E. Administrator
2.6 Program created to interrupt the normal functioning of a computer		F. Modem
2.7 Person who oversees the running of a network		G. Boss

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2.8 Making a copy of data on the server or on a computer		H. Network
		I. Peer
		J. USB
		K. Acceptable Use Policy (AUP)
		L. Backup

ACTIVITY 3: Question 3: (32 marks)

3.1 Name **three examples** of communication channels used to form a network. (3)
3.2 Name **two examples** of types of computer networks. (2)
3.3 Define the term **server**. (2)
3.4 Name **three tasks** performed by a network administrator. (3)
3.5 List **two differences** between a **client-server** and a **peer-to-peer** network. (2)
3.6 Name **three aims/objectives** of having a network. (3)

3.7 For each of the following, state whether it is an **advantage** or **disadvantage** and give a reason:
3.7.1 Sharing devices (2)
3.7.2 Centralised storage (2)
3.7.3 Program installation and backups (2)
3.7.4 Data transfer (2)
3.7.5 Security (2)
3.7.6 Management (2)

3.8 Name **two ways** to prevent virus infections on a network. (2)
3.9 List **three examples** of restrictions that might appear in an **Acceptable Use Policy** at a school. (3)

ACTIVITY 4: Question 4:– Networks (20 marks)

4.1 Briefly explain the main difference between a **LAN**, **PAN**, and **WAN**. (3)
4.2 What do you need to create a **PAN**? (2)
4.3 Name **three advantages** of a **PAN/HAN**. (3)
4.4 Name **two disadvantages** of a **PAN/HAN**. (2)

4.5 What is the **function** of each of the following devices in a computer network:
4.5.1 Modem (1)
4.5.2 Router (1)
4.5.3 Switch (1)

4.6 List the **four items** needed to connect to the Internet. (4)
4.7 What is an **ISP** and what is its purpose? (3)

ACTIVITY 5 Question 1: Multiple Choice

Choose the correct answer. Only write the letter (A–D) of your selected option.
(8 × 1 = **8 marks**)

1.1 Which one of the following does **not use the Internet**?
A. Buying a product from an online retailer
B. Depositing cash into your banking account
C. Researching a topic using a search engine
D. Downloading an e-book

1.2 Which one of the following statements is **true**?
A. The Internet is controlled by Microsoft
B. The Internet is not controlled by any single entity
C. The Internet is controlled by the international police
D. None of the above statements are true

1.3 Which one of the following is **not directly connected** to the Internet?
A. CPU
B. HTTP
C. URL
D. HTML

1.4 Which one of the following is **not** a valid type of Internet site?
A. .com
B. .ac
C. .org
D. .za

1.5 Which one of the following would describe a site such as www.google.co.za?
A. Web browser
B. Search engine
C. HTML
D. None of the above

1.6 What type of website is the **SABCnews** website?
A. News website
B. Personal website
C. Commercial website
D. Advocacy website

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1.7 Which one of the following can be described as a **social media**?
A. facebook.com
B. google.com
C. content.com
D. popurls.com

1.8 Which one of the following can **not** be classified as malware?
A. Phishing
B. Trojan horse
C. Logic bomb
D. Spyware

ACTIVITY 6: Question 2: Terminology – Matching

Choose a word from COLUMN B that matches the description in COLUMN A.
Write only the **letter (A–N)** next to each question number (2.1–2.10).
(10 × 1 = **10 marks**)

Column A		**Column B**
2.1 Another name for the Internet		A. Multimedia
2.2 Blue underlined text on a website is usually indicative of a _____?		B. Google
2.3 Information presented using graphics, sound, text, animation		C. Chat room
2.4 Programming language used to create websites		D. HTTP
2.5 Acronym found at the beginning of a website address		E. Delphi
2.6 South African search engine		F. Spam
2.7 An example of a web browser		G. Fax
2.8 Unwanted, bulk e-mail		H. The Web
2.9 A real-time e-communications method		I. URL
2.10 Analogue way of sending a page of information		J. Firefox
		K. HTML
		L. Aardvark
		M. Hyperlink
		N. Microsoft

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ACTIVITY 7: Question 3:

(22 marks)

3.1 Define the term **Internet**. (2)
3.2 Name **two communication channels** used over the Internet. (2)
3.3 Name **three places** where you can access the Internet while on holiday. (3)
3.4 Define the term **hotspot**. (2)
3.5 Why would you use a **hyperlink** on a website? (1)
3.6 What is a **markup language** used for? (1)
3.7 List **four items** required to connect to the Internet. (4)
3.8 Differentiate between a **search engine** and a **web browser**, and give one example of each. (4)
3.9 What are the **advantages of tabbed browsing**? List any three. (3)

ACTIVITY 8: Question 4: E-mail and Netiquette

(30 marks)

4.1 Define **e-mail**. (2)
4.2 Name **three advantages** of using e-mail over normal mail. (3)
4.3 Analyse this e-mail address: **sirantwi@nothing.org.za**. Briefly explain what each part means. (4)
4.4 Name **two advantages** of web-based e-mail. (2)
4.5 Name **three functions** that are possible using e-mail software. (3)

4.6 How are the following used in an e-mail?
4.6.1 **Subject** (1)
4.6.2 **Cc** (1)
4.6.3 **Bcc** (1)
4.6.4 **Paperclip** icon (1)

4.7 List **three netiquette rules** when writing an e-mail. (3)
4.8 List **three disadvantages** of using e-mail. (3)
4.9 Give **three signs** that a device may be infected with malware. (3)

4.10 Define the following threats:
4.10.1 **Hoax** (1)
4.10.2 **Phishing** (2)
4.10.3 **Pharming** (2)

4.11 Name **three ways** to avoid Internet security risks. (3)

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ACTIVITY 9: Question 5: E-Communication

(15 marks)

5.1 Differentiate between **real-time** and **delayed-time** e-communication. (2)

5.2 Name and briefly describe **three examples of real-time** e-communication services. (6)

5.3 Name and briefly describe **three examples of delayed-time** e-communication services. (6)

5.4 Name **one advantage** of using **VoIP**. (1)

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