

# DIGITAL LITERACY ASSIGNMENT

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## QUESTIONS

- Outline THREE types of computers when classified by functionality (3mks)
  - ★ Embedded computers-Computing devices used in other machines to serve a limited set of operations
  - ★ Servers-Are dedicated computers set up to offer some services to the client
  - ★ Work stations-Computer designed to primarily be used by a single user at a time
- State any THREE ways that a UPS protects a computer system(3mks)
  - ★ Data protection-By preventing sudden power loss, a UPS helps protect your data from corruption or loss
  - ★ Power back up-UPS units provide a battery backup that keeps your computer running in the event of a power outage
  - ★ Equipment protection-UPS unit can also safeguard other critical equipment's connected to a your computer such as monitors and keyboard
- Outline any TWO properties of operating systems(4mks)
  - ★ Concurrency-allows multiple programs or processes to run congruently, sharing the CPU's time. This is achieved through multitasking, where the OS switches between tasks rapidly
  - ★ Multiuser support-Many modern operating systems support multiple users, each with their own user Accounts and privileges
- Give any TWO types of bounded transmission media (4mks)
  - ★ Coaxial cable-They are used for transmitting television signals and they offer good signal quality and shielding against external interference
  - ★ Twisted pair cable-Used as telephone lines, Ethernet networking and are

known for their flexibility, cost effectiveness and resistance to external interference

- **Explain two types of cell referencing as used in spreadsheets (4mks)**
  - ★ Relative referencing- this is the default type of referencing used in spreadsheet. When you create a formula using relative referencing, the cell references within the formula adjusted automatically when you copy or drag the formula to other cell
  - ★ Absolute referencing-allows you to lock a specific cell or range in a formula so that it doesn't change when you copy the formula to other cell
- **John wanted to connect his computer to internet. Describe FIVE different ways he could do this (10mks)**
  - ★ Ethernet cables (wired connection)-he would plug one end of Ethernet cable into his computers Ethernet port and the other end into a modem or routers Local Area Network port
  - ★ Wi-Fi (wireless fidelity)-He need to ensure that his computer's WIFI is turned on and then select the appropriate WI FI network(SSID) and enter WI FI password if required
  - ★ Cellular data (Mobile hotspot)-He would enable the mobile hotspot feature on his device and then connect his computer to the hotspot via WIFI or Universal Serial Bus (USB) and access the internet through the cellular network
  - ★ Digital Subscriber Line (DSL)-He would connect his computer o the DSL modem using an Ethernet cable and connect to the internet over an active DSL subscription
  - ★ Fiber Optic Connection-He would need a fiber optic modem or an ONT (Optical Network Terminal to connect to the fiber optic line
- **A. What measures can you take to prevent your computer from being infected by malicious software (10mks)**
  - ★ Enable firewall protection to block unauthorized access and incoming threats
  - ★ Be cautious with Email attacgements and links

- ★ Use strong and unique password
- ★ Install antivirus and antimalware software
- ★ Keep your operating system updated
- ★ Download software app and files from trusted and reputable sources
- ★ Back up your important data regularly to an external drive or a cloud based service
- ★ Be educated about fishy attacks where malicious actors impersonate legitimate entities to trick one into revealing sensitive information
- ★ Avoid using an administrator account for everyday tasks
- ★ Stay updated about the latest cyber security threats and best practices to avoid malicious software

**B. Explain the various types of malicious software and how they affect a PC (10mks)**

- ★ Viruses-These are programs that attach themselves to legitimate executable files or documents, they corrupt or delete files, slow down system performance and spread to other files and computers through infected files or emails
  - ★ Computer worms-are standalone programs that replicate and spread across network or the internet without needing to attach themselves to other files without human interference
  - ★ Trojan horse –they are malicious software disguised as legitimate software and users are tricked into installing them in which they steal sensitive information example passwords
  - ★ Ransomware-they are malicious software that encrypt user files and demand a ransom in exchange for the decryption key, they lead to data loss and financial loss
  - ★ Malicious spyware-this malicious software silently collects information about the user's activity by logging keystrokes, it compromises privacy and can lead to identity theft
- List and explain the various types of network types, configurations, and the type



of hardware that would be required to set up these types of networks (20mks)

- ★ Local area network (LAN)- LAN is used for connecting devices within a limited geographical area for example office and the hardware requirements include Ethernet cables, switches to connect multiple devices, network interface cards for each device and router for internet access.
- ★ Wide area network (WAN) - WANs connect LANs over a wide geographical area and the hardware requirements include routers and modems for connecting to the internet or other WANs, leased lines for long distance connection, firewalls for security and WAN optimizing devices for improving performance.
- ★ Wireless local area network- WLANs use wireless technology (Wi-Fi) to connect devices within limited area and hardware requirements include Wi-Fi access points, wireless NICs devices, wireless controllers for managing multiple Aps and security protocols for encryption.
- ★ Metropolitan area network(MAN)- covers a large area than LANs but are smaller than WANs connecting multiple LANs within a city or metropolitan region and its hardware requirements include high capacity routers and switches, fiber optics, network management software for monitoring and control.
- ★ Virtual private networks(VPN)- VPNs create secure encrypted connections of a public network and the hardware requirements include VPN servers and clients, encryption hardware or software and authentication mechanism
- ★ Intranet- these are private networks based on internet technologies used for internal communication and sharing information within an organization and hardware requirements include servers for hosting intranet content, routers and switches for internal network traffic and firewalls and security appliances for protection.
- ★ Extranet- are extensions of intranets that allow authorized external parties and hardware requirements include firewalls and security measures to control external access, secure authentication mechanism.
- ★ Client-server network- these are based on centralized model where clients request services or resources from a central server and hardware requirements include servers to host applications or services, client devices to access services, network infrastructure to connect clients and

servers.

- ★ Peer-to-peer network-distribute the responsibilities for processing data among all devices, rather than relying on central server and hardware requirements include devices with networking capabilities and network cables or Wi-Fi for device-to-device communication.
- **What types of publications (with explanation)are desktop publishing (DTP)software used to create(10mks)**
  - ★ Brochures- For marketing and informational purposes.
  - ★ Flyers- Often used for advertising events or promotions.
  - ★ Newsletters- Both digital and print newsletters for organizations.
  - ★ Magazines- Professional and independent publications.
  - ★ Books-Including novels, text books and manuals.
  - ★ Posta's- For events, advertising or decorations.
  - ★ Business Cards- Designing personalized contact cards.
  - ★ Calendars- Customizable calendars for personal or business use.
  - ★ Menus- In restaurants, cafes and other food establishments.
  - ★ Invitations- Creating visually appealing slide shows.
- **Which are the six types of toolbar for DTP package?**
  - ★ Standard Toolbar- Contains basic functions like new, open, save, print, undo and redo.
  - ★ Formatting Toolbar- Provide options for formatting text including font selection, text size and bold.
  - ★ Drawing Toolbar – Includes tools for creating and editing graphical elements.

- ★ Page Layout Toolbar- Offers options for adjusting layout of your document.
- ★ Object Toolbar- Used for managing and manipulating objects within your document.
- ★ Insert Toolbar – Contains options for inserting various elements into your document such as images
- **Describe measures that we can take to prevent hacking of your device or online accounts (10mks)**
  - ★ Putting a strong password-mixing characters and symbols which can be difficult for anyone to guess
  - ★ Changing passwords regularly-at least change your passwords after 3 months
  - ★ Install antivirus software -Helps whenever someone tries to break into your information
  - ★ Avoid opening unknown links/websites- Hackers may design links and websites which when opened ay help them access into your information
  - ★ Keep your software updated-Regular update your operating system, applications, and antivirus software to patch known vulnerable
- **List 10 commands that every windows operating system user should know (10 mks)**
  - ★ Ping-tests network connectivity to a remote host
  - ★ Ipconfig-displays information about your computers network configuration
  - ★ Netstat-provide information about active network connection and statistics
  - ★ Sfc/scannow-commands scan and repair corrupted or missing system files
  - ★ Chkdsk-checks the integrity of your hard drive and file system for errors and attempts to fix them
  - ★ Taskkill-Terminates running processes or applications
  - ★ Shutdown-allows you to shutdown or restart your computer from the start line
  - ★ Tasklist-Displays a list of all currently running processes and their details

- ★ Gpupdate/force- it forces an immediate update of group policies on your computer
- ★ Tracert-traces the path that data packets take to reach a destination host

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