OICL AO Mains Computer Memory Based Paper (28 February 2026, Shift 1) Part - B

Q.1 QWERTY is used with reference to:

A. Monitor
B. Mouse
C. Keyboard
D. Printer
E. None of the above

Answer: C

Sol: QWERTY refers to a specific **layout of keys** on a keyboard, named after the first six letters in the top alphabet row (Q, W, E, R, T, Y). It is the **most widely used keyboard layout** for English-language typing and is found on nearly all standard keyboards for computers, laptops, and typewriters.
Important Key Points:
1. The **QWERTY layout** was designed in the 19th century by Christopher Sholes, the inventor of the typewriter.
2. It is optimized to **reduce key jams** in mechanical typewriters, not typing speed.
3. This layout has remained dominant even in digital keyboards due to user familiarity.
4. Alternatives like **Dvorak** and **AZERTY** layouts exist but are far less common.
5. QWERTY layout is standard on most **English-language keyboards** around the world.
Knowledge Booster:
· **Monitor** is a display device, unrelated to keyboard layouts.
· **Mouse** is a pointing device and doesn't involve key configurations.
· **Printer** is used for printing documents and has no key layout.

Q.2 Which of the following shortcut keys is used to insert a hyperlink in MS Word 365?

A. Shift + H
B. Ctrl + K
C. Ctrl + H
D. Shift + K
E. None of the above

Answer: B

Sol: The shortcut key **Ctrl + K** is used in MS Word 365 to insert a **hyperlink**. This allows users to quickly add links to web pages, email addresses, or files without navigating through the ribbon.
Important Key Points:
1. **Ctrl + K** opens the **Insert Hyperlink** dialog box for creating or editing hyperlinks.
2. Hyperlinks can link to external websites, documents, or specific locations within the document.
3. This shortcut is consistent across most Microsoft Office applications.
Knowledge Booster:
· **Shift + H:** Not a valid shortcut in MS Word for inserting hyperlinks.
· **Ctrl + H:** Opens the **Find and Replace** dialog, unrelated to hyperlinks.
· **Shift + K:** Does not perform any specific function related to hyperlinks.

Q.3 Which of the following is an Open source operating system?

A. MS-DOS
B. iOS
C. Linux
D. Windows
E. Internet explorer

Answer: C

Sol: **Linux** is a free, open-source operating system whose source code is accessible to anyone. It is widely used in servers, embedded systems, and desktop environments due to its stability, flexibility, and community support.
Important Key Points:
1. **Customizability:** Users can modify the source code to create personalized versions or distributions (e.g., Ubuntu, Debian, Fedora).
2. **Security:** Linux is known for its robust security and minimal susceptibility to malware compared to proprietary systems.
3. **Low Cost:** Being open source, Linux eliminates licensing fees, making it ideal for enterprises and developers.
4. **Applications:** Linux powers **web servers (Apache, Nginx)**, **supercomputers**, and **IoT devices**.

5. **Community Support:** A vibrant developer community ensures regular updates and fixes.

Knowledge Booster:

· **Linux Kernel:** Developed by **Linus Torvalds** in 1991.

· **Popular Distributions:** Ubuntu (user-friendly), CentOS (enterprise-grade), Kali Linux (security testing).

· **Usage in Enterprises:** Cloud services like AWS, Google Cloud, and Azure extensively use Linux.

· **Comparison:** Unlike Windows or macOS, Linux has no centralized vendor, giving users full control over customization.

Q.4 **Which generation of computers first introduced mini-computers and improved time-sharing and multi-programming operating systems?**

A. First

B. Second

C. Third

D. Fourth

E. Fifth

Answer: C

Sol: The **third generation** (roughly 1964–1971) introduced **integrated circuits (ICs)**, which dramatically reduced size and cost. This led to the birth of **mini-computers** (e.g., DEC PDP-8, PDP-11, VAX). It also saw the widespread development of **multi-programming**, **time-sharing**, and **multi-user operating systems** (e.g., MULTICS, early UNIX). These advancements made computing accessible to departments and universities instead of only large organisations.

Important Key Points:

1. **Third generation** used **Integrated Circuits (ICs)** instead of transistors.

2. First true **mini-computers** appeared (PDP-8 in 1965 is considered the first successful mini-computer).

3. Enabled practical **time-sharing** and **multi-programming OS**.

4. Key operating systems: IBM OS/360, MULTICS, early UNIX.

Knowledge Booster:

· (a) First → Vacuum tubes, no OS, batch processing only.

· (b) Second → Transistors, batch processing OS, no time-sharing or mini-computers.

· (d) Fourth → Microprocessors, personal computers, GUI – mini-computers already existed.

· (e) Fifth → AI, parallel processing – much later era.

Q.5 **An attempt to obtain or alter someone's IP address or DNS information is known as which of the following?**

A. Phishing

B. Spoofing

C. Vishing

D. Sniffing

E. Spooling

Answer: B

Sol: Manipulating or falsifying **IP addresses** or **DNS information** to deceive systems or users is called **spoofing**. Common examples include **IP spoofing** (forging source IP in packets) and **DNS spoofing** (also known as DNS cache poisoning, where false DNS records are inserted). This technique is used to bypass security controls or redirect traffic maliciously.

Important Key Points:

1. **Spoofing** involves impersonating a trusted entity by altering identifiers like IP or DNS data.

2. **IP spoofing** hides the true source of network packets.

3. **DNS spoofing** corrupts DNS resolution to redirect users to malicious sites.

4. Spoofing is a key technique in man-in-the-middle and denial-of-service attacks.

Knowledge Booster:

· (a) Phishing → Social engineering attack using fake emails or websites to steal credentials.

· (c) Vishing → Voice-based phishing conducted over phone calls.

· (d) Sniffing → Passive capture of network traffic to intercept data.

· (e) Spooling → Managing print or task queues in operating systems; unrelated to network attacks.