**Topic: The differences between the internet and the World Wide Web (WWW)**

Reading Time: 15 mins

**·        Note\* Highlight important/core points while reading**

·        Read the content and write the answers given in the document in your words, to get the solid grip on topic.

**Differences Between the Internet and the World Wide Web (WWW)**

The **Internet** and the **World Wide Web (WWW)** are closely related but distinct concepts.

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| **Feature** | **Internet** | **World Wide Web (WWW)** |
| **Definition** | A global network of interconnected computers that communicate using protocols like TCP/IP. | A system of interlinked web pages and resources accessed via the Internet using web browsers. |
| **Function** | Provides the infrastructure for communication, data transfer, and networking. | Uses the Internet to access and display web pages, multimedia, and hyperlinked documents. |
| **Components** | Includes servers, routers, cables, data centers, and protocols (TCP/IP, DNS, etc.). | Consists of websites, web pages, hyperlinks, and web technologies (HTML, CSS, JavaScript). |
| **Protocols Used** | Uses TCP/IP (Transmission Control Protocol/Internet Protocol), FTP, SMTP, etc. | Uses HTTP (Hypertext Transfer Protocol) and HTTPS for secure communication. |
| **Example Services** | Email, file transfer, video conferencing, online gaming. | Websites, blogs, e-commerce, social media platforms. |

### ****How They Work****

1.      **The Internet's Working Mechanism**

* The Internet is a global network of computers connected through fiber-optic cables, satellites, and wireless technologies.
* It uses the **TCP/IP protocol suite** to facilitate communication.
* Devices on the Internet are identified by **IP addresses** and domain names (e.g., google.com).
* Data is transmitted in the form of **packets** that travel through routers and servers to reach their destination.

2.      **The World Wide Web's Working Mechanism**

* The WWW is an application that runs on the Internet.
* Websites are hosted on **web servers**, which store web pages written in **HTML, CSS, and JavaScript**.
* Users access the WWW using **web browsers** (such as Chrome, Firefox, or Edge).
* Web pages are connected through **hyperlinks** and can include multimedia elements like text, images, and videos.
* When a user enters a **URL (Uniform Resource Locator)** in a browser, the **DNS (Domain Name System)** translates it into an IP address, allowing the browser to request the webpage from the corresponding web server.
* The webpage is then sent back to the user’s device using **HTTP or HTTPS protocols** and displayed in the browser.

**A-Rated Questions/Answers By Examiner**

**Q1: Define the Internet and the World Wide Web (WWW).**

**Answer:**

* The **Internet** is a global network of interconnected computers that communicate using the **TCP/IP protocol**.
* The **World Wide Web (WWW)** is a collection of **interlinked web pages and resources** accessed via the Internet using web browsers.

**Q2: Explain two differences between the Internet and the**[WWW](http://www/)**.**

**Answer:**

1. **The Internet** is the physical infrastructure that allows communication, whereas **the WWW** is an application that provides access to web pages.
2. **The Internet** uses multiple protocols such as TCP/IP and FTP, while **the WWW** mainly relies on HTTP/HTTPS.

**Q3: What is the role of a web browser in accessing the World Wide Web?**

**Answer:**A web browser is a software application that retrieves, interprets, and displays web pages from the [WWW](http://www/). It sends requests to web servers using the **HTTP/HTTPS protocols** and presents web content (HTML, images, videos, and interactive elements) to users.

**Q4: How does a DNS (Domain Name System) work when accessing a website?**

**Answer:**When a user enters a URL (e.g., [www.example.com](http://www.example.com/)) into a web browser:

1. The browser requests the **IP address** of the website from a **DNS server**.
2. The DNS translates the domain name into an IP address.
3. The browser uses the IP address to request the web page from the web server.
4. The web server responds with the web page data, which is displayed in the browser.

**Q5: What is the purpose of the HTTP and HTTPS protocols in web communication?**

**Answer:**

* **HTTP (Hypertext Transfer Protocol)** is used to transfer web pages and resources between a web server and a browser.
* **HTTPS (Hypertext Transfer Protocol Secure)** is an encrypted version of HTTP that ensures secure communication using **SSL/TLS encryption** to protect user data from cyber threats.

### Write your Answers on your Notebook and Verify it on Next Screen

**Q6: How does data travel across the Internet to reach its destination?**

**Q7: What are some examples of services provided by the Internet that are not part of the World Wide Web?**

**Q8: Why is the Internet considered the backbone of the World Wide Web?**

**Q9: What role do web servers play in the functioning of the World Wide Web?**

**Q10: How does a URL (Uniform Resource Locator) help users navigate the World Wide Web?**

**6. Answer:**

1. Data is broken into packets before being sent across the Internet.
2. Packets travel through various routers and servers using the best available path.
3. The destination device reassembles the packets to retrieve the original data.
4. This process is governed by the TCP/IP protocol to ensure reliable communication.

**7. Answer:**

1. Email services (e.g., Gmail, Outlook) use protocols like SMTP, IMAP, and POP3.
2. File transfer services via FTP (File Transfer Protocol).
3. Video conferencing applications like Zoom and Microsoft Teams.
4. Online gaming and streaming services like Netflix and Xbox Live.

**8. Answer:**

1. The WWW relies on the Internet to transmit data between users and web servers.
2. Without the Internet’s infrastructure (cables, servers, and networking protocols), web pages and online services could not function.
3. The Internet enables global connectivity, allowing web browsers to access and display web pages.

**9. Answer:**

1. Web servers store and host websites, making web pages accessible to users.
2. When a browser requests a web page, the web server processes the request and sends the required files (HTML, CSS, JavaScript) to the browser.
3. Web servers use HTTP/HTTPS to facilitate secure communication between clients and websites.

**10. Answer:**

1. A URL is a unique address used to locate resources on the [WWW](http://www/).
2. It consists of different parts, including the protocol (HTTP/HTTPS), domain name (e.g., google.com), and file path (e.g., /index.html).
3. The URL directs the browser to the correct web server and retrieves the requested webpage.