

Q. 1. Define internet and write the role and importance of internet in today's world.

=> The internet is a global network of interconnected computers that use standardized communication protocols to link devices worldwide. It allows users to access a vast amount of information, communicate with others, and engage in various activities such as shopping, studying, or entertainment.

Role and Importance of Internet in Today's World:

Roles:

- a. **Information Access:** The internet provides access to a wealth of information on almost every topic imaginable, enabling students to conduct research and learn new things.
- b. **Communication:** It facilitates communication through email, social media, and instant messaging, allowing people to connect with others regardless of geographical barriers.
- c. **Education:** The internet offers online courses, educational videos, and resources that supplement traditional classroom learning and provide opportunities for self-study.
- d. **Entertainment:** It offers a wide range of entertainment options, including streaming services, online games, and social media platforms, keeping people entertained and engaged.
- e. **Commerce:** The internet is a platform for e-commerce, enabling businesses to sell products and services online, reaching a global audience.
- f. **Work:** Many jobs now require internet access for tasks such as research, communication, and remote work, making it essential for employment in various fields.
- g. **Information Sharing:** It allows for the sharing of ideas, knowledge, and creative content through platforms like blogs, forums, and social media, fostering collaboration and innovation.

Importance:

- a. **Global Connectivity:** The internet connects people and cultures worldwide, fostering global communication and understanding.
- b. **Learning Resource:** It provides access to educational materials and resources, supporting learning and skill development.
- c. **Economic Growth:** The internet has become a crucial tool for businesses, driving economic growth through e-commerce and online services.
- d. **Social Interaction:** It enables people to connect with friends, family, and communities, enhancing social interactions and relationships.
- e. **Information Exchange:** The internet facilitates the exchange of information and ideas, contributing to the spread of knowledge and innovation.
- f. **Convenience:** It offers convenience by providing access to services like online banking, shopping, and entertainment from anywhere with an internet connection.

- g. **Empowerment:** It empowers individuals by providing access to information and opportunities that were previously inaccessible, bridging gaps and promoting equality.

Q. 2 What is network architecture? Explain the types of network architecture with their merits and demerits.

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Merits of client/Server network architecture

- a. A client/server network covers a larger geographical area.
- b. It reduces the network traffic

Demerits of client/Server network architecture

- a. In client server system if the server fails, the whole network goes down.
- b. It is very expensive to install and manage this type of network

Merits of peer to peer network architecture

- a. All the resources and contents are shared by all the peers (clients).
- b. It is more reliable as central dependency is eliminated. Failure of one peer doesn't affect the functioning of other peers.

Demerits of peer to peer network architecture

- a. In this network, the whole system is decentralized thus it is difficult to administer.
- b. Security in this system is very less.