**ICT laboratory work**

**Cloud**

A service, which is usually rented for a certain period of time with a subscription. It can perform different tasks depending on the needs of the user. For example, store data, use servers and virtual computers. These services are beneficial for businesses and normal users because they are less costly than renting or buying physical devices.

**Q1: What is the difference between a private ip and public ip?** A private IP address is used within a local network to allow devices to communicate with each other securely and is not visible on the internet. In contrast, a public IP address is unique and assigned by an Internet Service Provider (ISP) to enable devices to communicate over the internet, making it globally visible and traceable.

**Q2: what is Ip4 and Ip6?** IPv4 is the older Internet Protocol version using 32-bit addresses, providing about 4.3 billion unique IPs, mainly written in dotted-decimal format. IPv6 is the newer version designed to solve IPv4 address exhaustion with 128-bit addresses, allowing an almost unlimited number of IPs, written in hexadecimal with colons. Additionally, IPv6 includes improved security, better routing, and auto-configuration features that IPv4 lacks.

**Q3: What is static and dynamic ip?** A static ip is a fixed ip that is assigned manually to a device, which is better for hosts and for consistent network connections because it doesn’t change over time. It’s usually more expensive and less secure because it’s made by the user. But in dynamic ip the address is assigned automatically with DHCP server and can change each time a device reconnects to the network. It’s usually used at homes and for personal devices. Because of that it’s less expensive and offers more privacy.

**Q4: What is subnetting?** Is a process of breaking down the Ip address into smaller, more practical segments called subnets. It improves network performance and security. Each subnet operates as a separate network with its own ip address. Subnetting is essential for organizing networks and improving communication efficiency between different devices in the subnet.

What is DNS? It’s a global directory that translates human-readable domain names, the ones we can see on the browser, into names that can be read by computers which is the ip address. That way the computer can understand and recognise the names of websites and users can comfortably search for the websites name instead of having to search for the ip address.

Explain Von Neumann Architecture? It’s a computer design model that is used in almost all modern computers. Its program design is crucial because it allows devices to be easily reprogrammed for different tasks by loading a new segment of instructions into memory.

What is ALU and CU? The ALU is the calculator and decision maker of the cpu. It’s the component that performs arithmetic and logic operations.

CU is the manager and coordinator of the cpu. It gives other hardware components instructions that have been executed by the cpu.