# Interview Questions

## Network Layer

**Q1.** What's the maximum size of an IP Header? Also, what is the use of TTL? **(Birlasoft)**
**Answer:** The IPV4 header format is 20 to 60 bytes long. Time to live is a value for the amount of time a packet of data must be present on a computer or network before being dropped. The meaning of TTL or the duration of the packet depends on the context. It is a value in an IP packet that informs a network router when the packet has been on the network for too long and should be discarded. The time field is 8 bits long and is used to prevent the box from repeating forever (when you have a routing loop).

**Q2.** How many bits is IPv6? What is the primary advantage of IPv6? **(Adobe Systems)**
**Answer:** The IPv6 is 128Bits long, whereas IPV4 is 32bits long. IPv6 reduces the dimensions of steering tables and makes the address better and progressive. In IPv6 organizations, a fracture is served by the origin gadget against a switch, which uses a convention to detect the largest transmission unit of the way it is revealed.

**Q3.** What is the format of IPv6? Give an example? **(Microsoft Corporation)**
**Answer:** An IPv6 address is represented as eight groups of four hexadecimal digits, and each group represents 16 bits (two octets, a group sometimes called a hextet). An example of an IPv6 address is: 2001: 0db8: 85a3: 0000: 0000: 8a2e: 0370: 7334. The standards offer flexibility in the representation of IPv6 addresses.

**Q4.** What are Routers? How are they different from Hubs? **(Think Palm Technologies)**
**Answer:** A Router is a device on the network that is responsible for connecting two or more network segments. It is used to transfer information from source to destination. The routers send the information in the form of data packets. When these data packets

are forwarded from one router to another, it reads the network address on the packets and identifies the destination network. The hub and switch are network-connected devices. The hub works at the physical layer and is responsible for sending the signal to the port to respond to the call, while the switch allows the connection to be configured and terminated as needed.

**Q5.** Which layer does a Router work on? Define the role of a router in a network? **(Mphais)**

**Answer:** Routers operate at the third layer of the OSI model, the network control layer. Instead of forwarding packets based on Media Access Control (MAC) layer addresses (as bridges do), a router examines the data structure of the packet. It determines whether or not it should be forwarded. A router stores and forwards data packets, each containing a source and destination network address, from one LAN or WAN to another. Routers are "smarter" than bridges because they find the best path for whatever data is sent to them from the old Router or the end of the LAN.