1. **What is the significance of MAC layer and in which position it is placed in the OSI model**

* The MAC (Media Access Control) layer is a part of the **Data Link Layer** in the OSI model.
* It is placed in **Layer 2** and works just below the LLC (Logical Link Control) sublayer.
* MAC layer mainly handles how devices communicate over a shared medium.
* It controls access to the physical network (who can send data and when).
* It uses MAC addresses to identify devices on a local network.
* Adds source and destination MAC addresses to each frame.
* Helps in avoiding data collisions using methods like CSMA/CD (in Ethernet).
* Checks for errors in the transmitted frames using CRC.
* Works in technologies like Ethernet, Wi-Fi, and Bluetooth.