1. Significance of classful addressing (Class- A, B, C, D and E in IP-addressing)
2. Classful addressing is a method of allocating IP addresses based on the number of bits used for the network prefix and host identifier.
3. IP addresses were divided into five classes (A, B, C, D, and E) based on the number of bits used for the network prefix and host identifier.
4. Class A: used 8 bits for the network prefix and 24 bits for the host identifier, allowing for a maximum of 126 networks and 16,777,214 hosts.
5. Class B: used 16 bits for the network prefix and 16 bits for the host identifier, allowing for a maximum of 16,384 networks and 65,534 hosts.
6. Class C: used 24 bits for the network prefix and 8 bits for the host identifier, allowing for a maximum of 2,097,152 networks and 256 hosts.
7. Class D: used for multicast IP addresses.
8. Class E: used for experimental or future use.
9. This system of address allocation was simple but not scalable, leading to a rapid depletion of available IP addresses.
10. Discussion on subnetting and subnet mask
11. Subnetting is a technique used to divide a single network into multiple smaller networks, or subnets.
12. Subnets are useful for improving network security, reducing network congestion, and conserving IP addresses.
13. Subnet mask is a 32-bit number used to divide an IP address into a network prefix and a host identifier.
14. Subnet mask is applied to an IP address by performing a bitwise AND operation between the IP address and the subnet mask.
15. The subnet mask specifies the number of bits used for the network prefix and the number of bits used for the host identifier.
16. The resulting value after applying the subnet mask to the IP address represents the network prefix of the IP address.