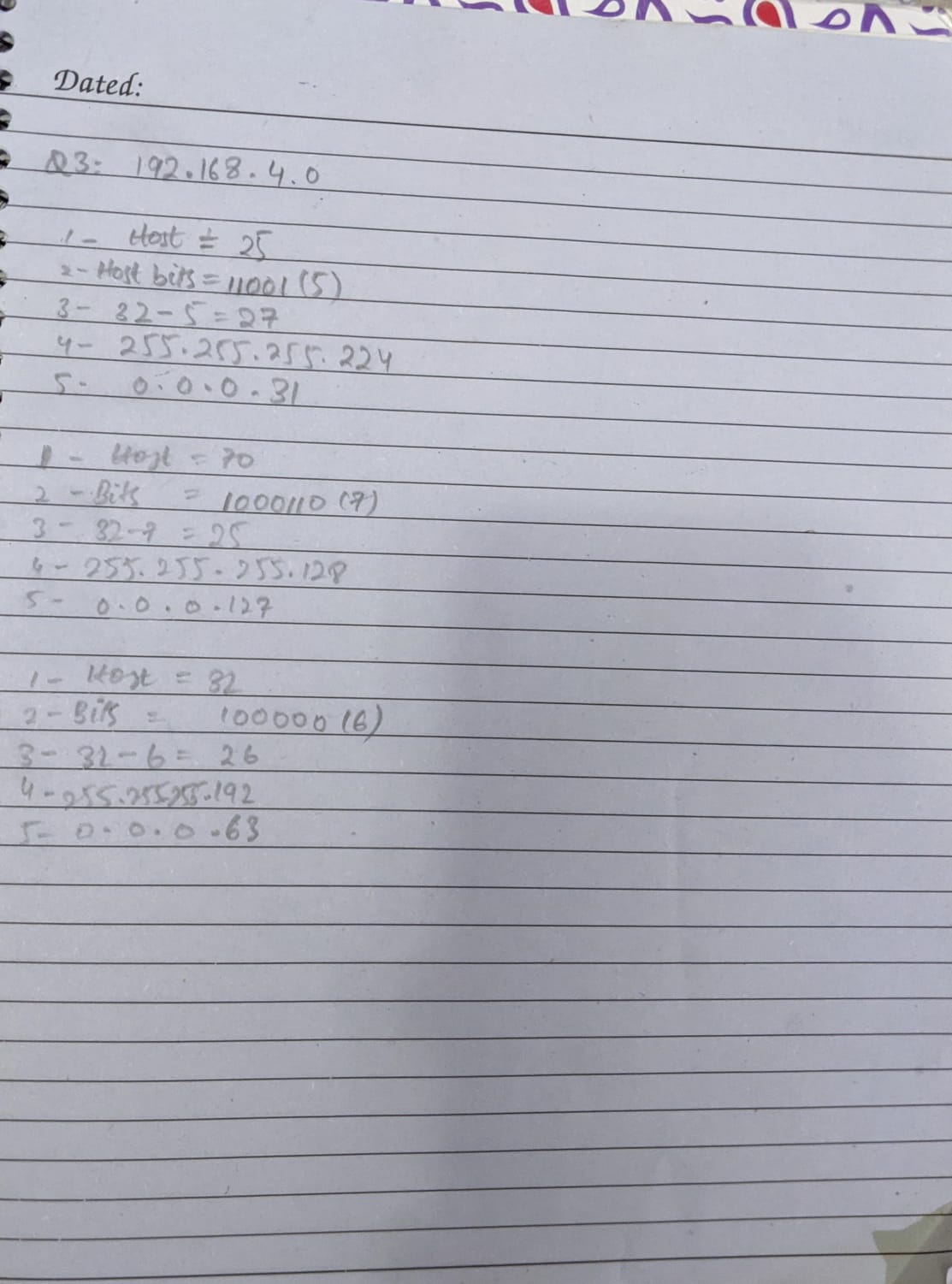
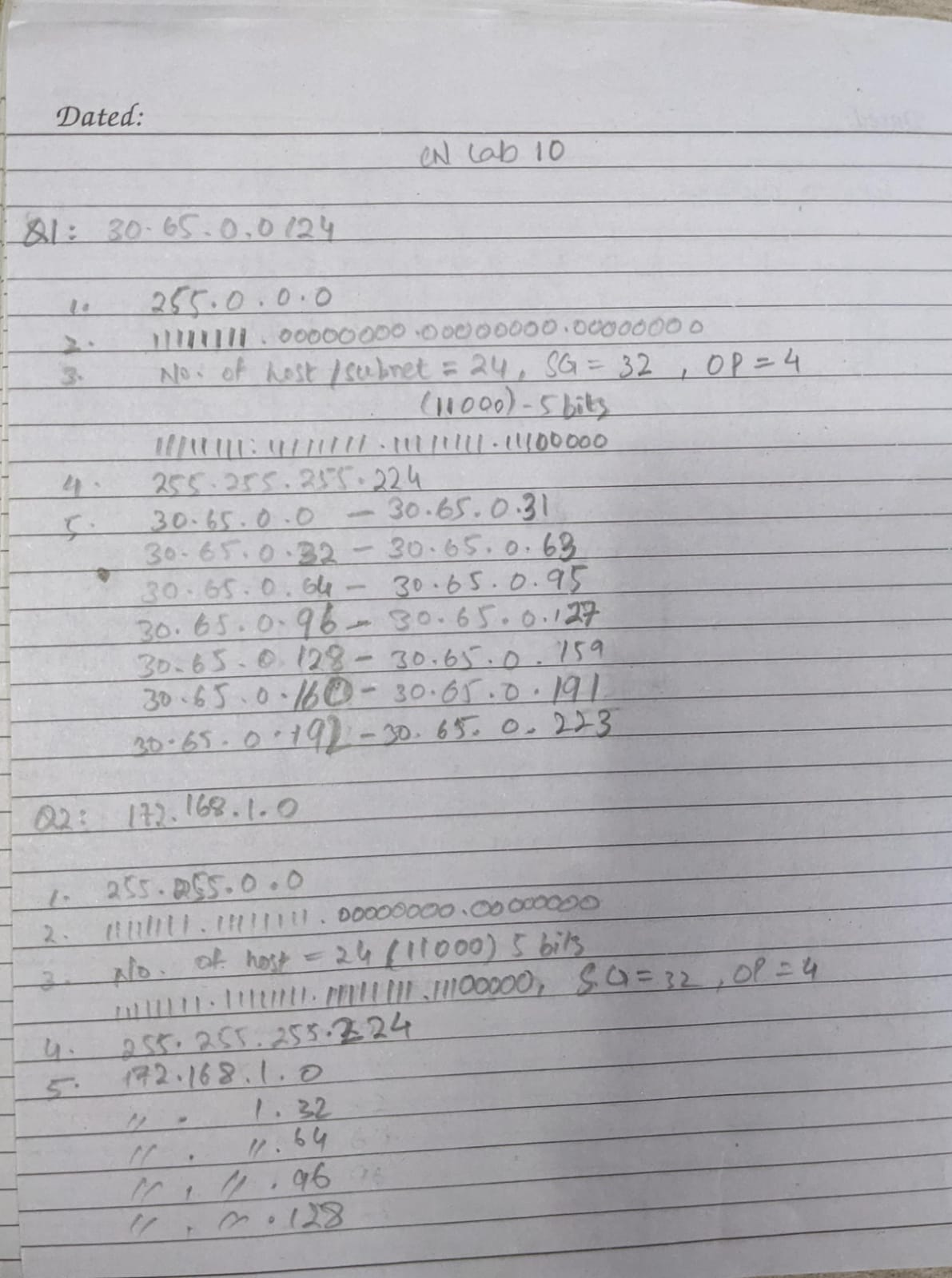
**wCN LAB 10**

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Question 4:

Static routing and dynamic routing are used in different network scenarios based on their respective advantages and requirements.

**Static Routing:**

* Advantages: Simple to configure and manage, suitable for small networks with few routers, and predictable in terms of routing paths.
* Topological Reason: Static routing is typically used in small networks or in situations where the network topology is stable and changes infrequently. For example, in a small office network with a single connection to the internet, static routes can be used to define the path to the internet gateway and other internal networks.

**Dynamic Routing:**

* Advantages: Automatically adjusts to changes in the network topology, scales well for large networks, and can provide load balancing and redundancy.
* Topological Reason: Dynamic routing protocols, such as OSPF or BGP, are used in larger networks where the topology changes frequently or where there are multiple paths to reach a destination. For example, in a large enterprise network with multiple routers and connections, dynamic routing protocols can dynamically update routing tables to adapt to changes in the network, such as link failures or new network segments being added.