Part 1:

Anything can not ping. Because the devices have been placed into different VLANs and the link between the switches is not yet configured as a trunk to carry multiple VLAN tags.

Part 2:

Step 1

- **What is the default VLAN?** The default VLAN is VLAN 1.
- **What ports are assigned to the default VLAN?** All ports (Fa0/1-24, Gi0/1-2).

Step 2

c: **What is the status of VLAN 99?** Down/Down. No active physical ports are currently assigned to VLAN 99.

f:**4. Is S1 able to ping S2?** No. S1 is on VLAN 99, but S2 is still on VLAN 1

f:**5. Is PC-A able to ping PC-B?** No. They are in the same VLAN, but the inter-switch link (Fa0/1) is not a trunk and cannot carry VLAN 10 traffic.

Part 3:

Step2

b:**Which VLAN is F0/24 now associated with?** VLAN 1

Step3

Which VLAN is F0/24 associated with? VLAN 1.

- **Default name of VLAN 30?** VLAN0030.
- **Why is F0/24 missing from `show vlan brief`?** VLAN 30 was deleted; the port is now inactive.
- **What happens to traffic on F0/24?** Traffic is dropped.
- **Why reassign before removing?** To prevent the port from becoming inactive and losing connectivity.

Part4

- **Can S1 ping S2?** Yes.
- **Can PC-A ping PC-B?** Yes.
- **Can PC-A ping S1?** No.
- **Can PC-B ping S2?** No.
- **Explain:** PCs and Switches are now in different VLANs/subnets.

- **Why manual trunking vs DTP?** Security (prevents unauthorized trunking) and reliability (disables negotiation overhead).
- **Why change the native VLAN?** To prevent "VLAN hopping" security attacks and also separate control traffic from user data.

Reflection Questions

1. **What is needed for VLAN 10 to talk to VLAN 99?** A Layer 3 device (Router or Multilayer Switch).
2. **Primary benefits of VLANs?** Improved security, performance and easier logical grouping of users regardless of physical location.