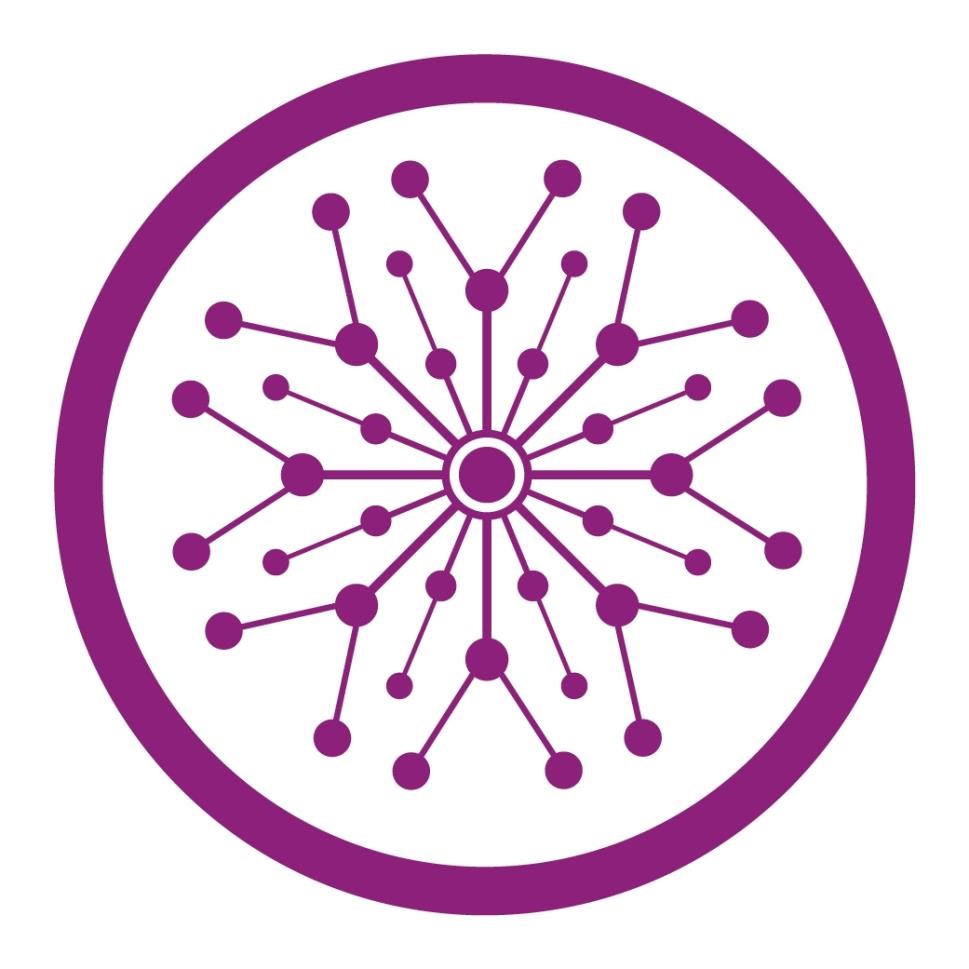
**Task-12**

**Computer Networks (Lab)**



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**DEPARTMENT OF SOFTWARE ENGINEERING**

VLANs and Inter-VLAN Routing: A Comparative Overview

|  |  |  |
| --- | --- | --- |
| Feature | Virtual Local Area Network (VLAN) | Inter-VLAN Routing (IVR) |
| Function | Partitions a network into multiple broadcast domains | Enables communication between different VLANs |
| Layer | Layer 2 (Data Link) | Layer 3 (Network) |
| Device Communication | Devices within the same VLAN can communicate | Requires a router or Layer 3 switch to route traffic between VLANs |
| Communication Mode | Limited to within the VLAN | Possible between multiple VLANs |
| Switching Device | Layer 2 Switch | Layer 3 Router or Switch |
| Example | Creating separate VLANs for HR, Sales, and IT departments | Routing traffic between VLAN 20 (Sales) and VLAN 10 (HR) using a router |

Key Differences

* VLANs isolate network traffic, preventing broadcast storms and improving security.
* Inter-VLAN Routing allows controlled communication between these isolated VLANs, enabling efficient network management and resource allocation.

By understanding the interplay between VLANs and Inter-VLAN Routing, network administrators can design and implement robust, scalable, and secure network infrastructures.