Q1. Link state and Distance vector routing protocols are which Layer Protocols as per OSI model?

Ans Link state and distance vector routing protocols are both Layer 3 protocols in the Open Systems Interconnection (OSI) model.

Q2. Explain Link state protocol in brief.

Ans. → Link state protocol:

- Link state routing is a technique in which each
- router shares the knowledge of its neighbourhood with every other router in the internetwork.
- The three keys to understand the Link State Routing algorithm:

1. Knowledge about the neighborhood:
- Instead of sending its routing table, a router sends the information about its neighbourhood only.
- A router broadcast its identities and cost of the directly attached links to other routers

2. Flooding:
- Each router sends the information to every other router on the internetwork except its neighbors
- This process is known as Flooding.
- Every router that receives the packet sends the copies to all its ~~no~~ neighbours.
- Finally each and every router receives a copy of the same information.

3. Information sharing:

- A router sends the information to every other router only when the change occurs in the information.

Q3. Explain Distance vector routing protocols in brief.

Ans.: The distance vector algorithm is iterative, asynchronous and distributed

→ Distributed:

- It is distributed in that each node receives information from one or more of its directly attached neighbours, performs calculation and then distributes the result back to its neighbours

→ Iterative:

- It is iterative in that its process continues until no more information is available to be exchanged between neighbours

→ Asynchronous:

- It does not require that all of its nodes operate in the lock step with each other

- The Distance vector algorithm is a dynamic algorithm.
- It is mainly used in ARPANET, and RIP.
- Each router maintains a distance table known as vector.