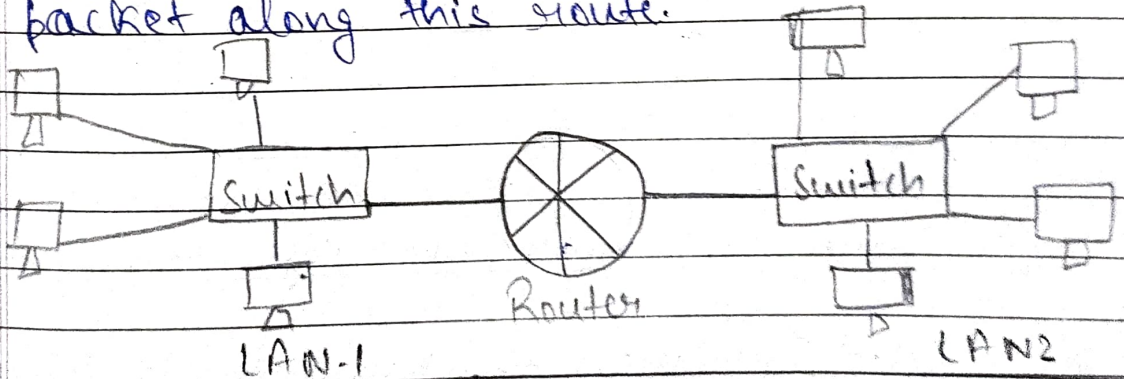Assignment No-5

Q- write short notes on -

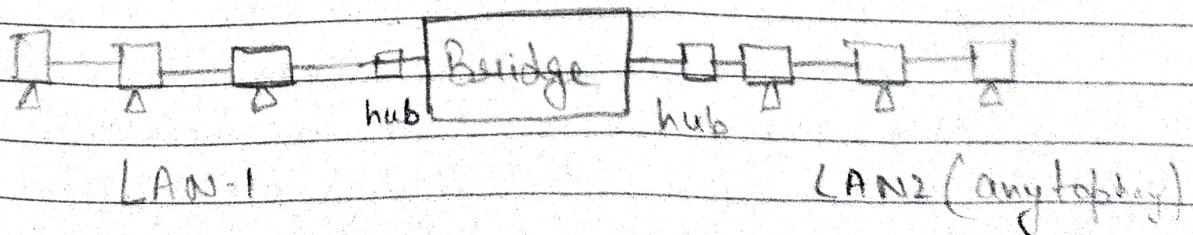a) Routers   c) Gateways

b) Bridges   d) Switches.

a) Routers - Routers are networking devices operating at layer 3 or a network layer of the OSI model. They are responsible for receiving, analysis and forwarding data packets among the connecting computer networks.

when a data packet arrives the router inspects the destination address, consults its routing tables to decides the optimal route and then transfers the packet along this route.
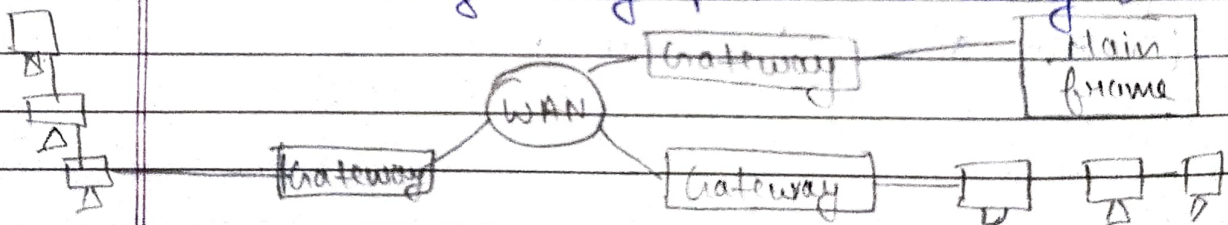

LAN-1   LAN2

b) Bridges: (layer 2 switch)

LAN-1   LAN2 (any topology)

It connects multiple LANs together to form a larger LAN, The process of aggregating networks is called network bridging It makes the combined network to appear as a single network. It operates at Data link layer. They are also known as layer-2 switch. Subnetworks should have similar protocols.

c) **Gateway:**

This device is used to connect two network with different transmission protocols together. Gateways serve as an entry and exit point for a network as all data must pass through or communicate with the gateway prior to being routed.

- Gateways are slower than Bridges and routers.

d) **Switches:** They are networking devices operating at layer 2a or data link layer of OSI-model.
- They connect devices in a network and use packet switching to send, receive or forward data packets or data frames over the network.
- It has many ports for connections.
- They receive data from multiple input ports and send to its intended destination in the network.