## FIBER OPTIC CABLE:

Data in this cable travels in the form of light pulses.

## TYPES OF FIBER OPTIC CABLE:

Fiber optic cables have 2 variations which are:

## SINGLE MODE FIBER:

It has 1 light frequency that goes through it. It means it can't carry as much data. It does not have any other frequency of light to interfere with so it can travel more compared to multimode. Faster speed due to lesser signal dispersion because the beam is tighten.

## MULTI MODE FIBER:

It can handle several different light frequencies at the same time. Each light frequencey is called a mode. It is for short range communication because the different light frequncies will interfere with each other. Because it can handle several light frquencies at the same time, we can carry more data that single mode fiber. Slower speed than single mode.

## DIFFERENCE BETWEEN WIRELESS ACCESS POINT AND WIFI ROUTER:

- A wifi router allows wired and wireless device to join in a LAN. It will broadcast wifi signals so that wireless device can connect to it and it also has a built in switch so that wired devices can connect to it using ethernet cable. And then that wifi router will be directly connected to the modem to give that devices internet access.

- A WAP is like a wireless hub that itself is connected to the wifi router through an ethernet cable and extends network's existing wireless signals so that distant devices can connect to the wifi signals.

- WAP are primarily used by medium to large organizations and the organization will have multiple APs to to make sure they cover the entiere building.

- The wired devices will connect to the organiztion using ethernet cables but wireless devices will use APs to connect to get internet access. Now all the wireless devices connected to APs and those APs inturn connected to the wifi router plus the wired devices makes a network which is managed by that one single router.

- Now we can use wifi routers instead of APs and that would work just fine but in case of routers, the network administration if want to make some changes to the network, he would login to each wifi router and set that up which will be a time consuming task but in case of APs all the configurations and changes will be done by one single router to which the APs are connected.

- For example, in case of using WAPs, the default gateway will same for all the devices connected to diiferent APs deploid in different parts of the organizations. But devices connected to different router, they will need their router as their default gateway selected as configuration so the major problem with using wifi routers is managibility.

- So all the wireless devices can be treated as a single subnet in WAPs instead of being treated as multiple subnets if wifi routers were used.

- WAPs are strictly for wireless devices while wifi router can accept connection from both wired and wireless devices. Because wifi router have wifi antenna as well as builtin switch to accept ethernet cable connections.

- WAPs has no firewall whie wifi routers will have a firewall.

- A wifi router will have a builtin DHCP service which automatically assigns devices an IP address. So devices connected to APs will get their IP automatically through the APs from the router because the WAPs have no has no DHCP service.

- A wifi router will have WAN (Internet) port where you would plug in a network cable coming in from your modem. And this gives wifi router internet connection, while a WAP has no WAN port so it cannot directly connect to a modem. It has to connect to a router and the router then connects to a modem.