Q9. List down the type of Wi-Fi internet connectivity backhaul, share your home/college's wireless internet connectivity backhaul name and its properties

Types of Wi-Fi Internet Connectivity Backhaul & Use Cases

- Fiber Optic Backhaul – Used for high-speed internet in cities, businesses, and data centers.
- DSL (Digital Subscriber Line) Backhaul – Common for home broadband, small offices, and rural connectivity.
- Cable (Coaxial) Backhaul – Used in residential broadband, ISP networks.
- Ethernet Backhaul – Preferred for enterprise Wi-Fi, office networks, and campus AP connections.
- Microwave Backhaul – Supports remote areas, ISP backbone networks, and cellular tower connectivity.
- Satellite Backhaul – Ideal for remote internet, maritime, and aviation Wi-Fi connectivity.
- 4G LTE Backhaul – Used in temporary setups, mobile Wi-Fi hotspots, and rural broadband solutions.
- 5G Backhaul – Enables smart cities, autonomous vehicles, and ultra-low latency applications.
- Mesh Wi-Fi Backhaul – Best for large homes, offices, and campus-wide seamless Wi-Fi coverage.
- Power Line Communication Backhaul – Extends internet in homes/offices using existing electrical wiring.

college's wireless internet connectivity backhaul name and its properties

```
C:\Users\Sharmila>tracert 8.8.8.8

Tracing route to dns.google [8.8.8.8]
over a maximum of 30 hops:

  1    17 ms     4 ms     5 ms  172.17.16.1
  2     4 ms     2 ms     3 ms  192.168.12.1
  3    12 ms    12 ms    22 ms  103.183.240.99
  4    17 ms    25 ms    39 ms  as135139-cbe.skylinkfibernet.com [103.99.149.195]
  5    21 ms    17 ms    85 ms  216.239.43.135
  6    32 ms    17 ms    15 ms  142.250.236.157
  7    19 ms    20 ms    13 ms  dns.google [8.8.8.8]

Trace complete.

C:\Users\Sharmila>
```

1. First Hop (172.17.16.1) → This is my college local network gateway

2. Second Hop (192.168.12.1) → college's main router handling internal traffic.

3. Third Hop (103.183.240.99) → This is the first external ISP IP address (WAN connection).

4. Fourth Hop (as135139-cbe.skylinkfibernet.com [103.99.149.195]) → This shows my college is using SkyLink FiberNet, a fiber-based ISP.

5. Next Hops (Google DNS Servers) → Indicates the request reaching Google's DNS (8.8.8.8).

My college's Wireless Internet Connectivity Backhaul

Backhaul Type: Fiber Optic

ISP Name: SkyLink FiberNet

Connection Type: Wired Fiber (High Speed, Low Latency)

 Latency: Ranges between 4ms - 39ms, for a fiber-based network.