

Lab Module 1

❖ **Research different types of internet connections (e.g., broadband, fibre, satellite) and list their pros and cons.**

Ans. Internet connections vary in technology, speed, availability, and cost. Here's a brief overview of common types:

1. Broadband (DSL and Cable):

- **Pros:**
 - **Availability:** Widely accessible in urban and suburban areas.
 - **Speed:** Offers moderate to high-speed connections suitable for streaming and browsing.
 - **Cost:** Generally affordable with various pricing plans.
- **Cons:**
 - **Speed Variability:** Speeds can fluctuate based on distance from the provider's infrastructure (DSL) or network congestion (cable).
 - **Availability:** Limited in rural or remote regions.

2. Fiber Optic:

- **Pros:**
 - **Speed:** Provides extremely high-speed internet, ideal for heavy data usage.
 - **Reliability:** Less susceptible to interference and signal degradation.
- **Cons:**
 - **Availability:** Limited to specific areas, often urban centers.
 - **Cost:** Installation and service can be more expensive.

3. Satellite:

- Pros:
 - Availability: Accessible in remote and rural areas where other connections are unavailable.
- Cons:
 - Speed: Generally lower speeds compared to other types.
 - Latency: Higher latency due to long-distance signal travel.
 - Weather Sensitivity: Performance can be affected by adverse weather conditions.

4. Wireless (Wi-Fi and Mobile Networks):

- Pros:
 - Flexibility: Allows multiple devices to connect without physical cables.
 - Convenience: Ideal for mobile devices and areas without fixed infrastructure.
- Cons:
 - Speed: Typically, lower speeds compared to wired connections.
 - Interference: Susceptible to interference from other electronic devices.
 - Security: Requires proper security measures to prevent unauthorized access.

5. Mobile Data (4G/5G):

- Pros:
 - Mobility: Provides internet access on the go.
 - Speed: 5G offers high-speed internet comparable to fiber in some areas.
- Cons:
 - Coverage: 5G is still expanding; 4G coverage is more widespread.

- Data Limits: Some plans have data caps or are more expensive for higher data usage.

Choosing the right internet connection depends on your location, usage needs, and budget.