1- Is sending a message on a WhatsApp group considered multicast?

Sending a message in a WhatsApp group is considered multiple unicast, not multicast.

When a user sends a message, it goes first to WhatsApp's servers, which then delivers it individually to each group member.

This method ensures end-to-end encryption and reliable delivery, but it is not true IP multicast.

So, it is an application-based process, not a network-layer multicast.

2- Is APIPA available only on Windows?

APIPA is part of the link-local addressing standard defined in RFC 3927, which assigns IPs in the range 169.254.0.0 – 169.254.255.255 when no DHCP server is found.

APIPA (Automatic Private IP Addressing) is not exclusive to Windows — it's available in other operating systems too.

Operating systems like Linux, macOS, and even some IoT devices also implement this feature (often called link-local addressing instead of APIPA).

For example:

- In Linux, it's implemented through Avahi or Zeroconf, which automatically assigns a link-local IP.
- In macOS, the same feature exists and is also based on Bonjour/Zeroconf services

3- What's IOT?

Definition:

The Internet of Things (IoT) refers to a network of interconnected physical devices—such as sensors, appliances, vehicles, and machines—that can collect, exchange, and act on data over the internet without direct human involvement.

IoT systems typically consist of sensors, connectivity (Wi-Fi, Bluetooth, Zigbee, etc.), data processing, and cloud platforms. They enable automation, real-time monitoring, and data-driven decision making across many fields.

Applications:

- Smart homes: controlling lights, thermostats, and security cameras remotely.
- Healthcare: wearable devices that monitor heart rate or blood pressure.
- Industrial IoT: monitoring equipment performance in factories.
- Smart cities: managing traffic, streetlights, and waste collection efficiently.
- Agriculture: using soil and weather sensors to optimize irrigation and crop growth.