



MAC Binding

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Why in News

- The authorities have removed ban on social media and restored full internet access in Kashmir on 4th March 2020.
- Among various conditions, the Internet connectivity will be made available “**with mac-binding**”.

Key Points

Every device has a **Media Access Control (MAC) address**, a hardware identification number that is unique to it. While accessing the Internet, every device is assigned an **Internet Protocol (IP) address**.

- This **forces a particular device to access the internet from a specific IP address**.
- If either the MAC (Media Access Control) address or the IP address changes, the device will not be able to access the internet.
- MAC-binding will also enable authorities to **trace a device on the basis of its online activity**.

Media Access Control (MAC) address

- Address that **uniquely defines a hardware interface** is called MAC (Media Access Control) Address.
- It identifies the **physical address** of a computer on the internet.
- It is **48 bits (6 bytes) hexadecimal address**.
- MAC Address of each computer on a network is unique.

Internet Protocol (IP) address

- The address provided to a **connection in a network** is called IP (Internet Protocol) address.

- It identifies the connection of a computer on the internet.
- **IPv4 is a 32-bit (4 bytes) address, and IPv6 is a 128-bits (16 bytes) address.**
- IP address **does not uniquely identify a device on a network** but, it specifies a particular connection in a network.
- IP address **changes each time a device is connected** to the network as it is dynamically allocated to the device when it participates in the network.
- Mobile internet services too will be available **only on postpaid connections.** Prepaid connections will not have access to the internet "unless verified as per the norms applicable to postpaid connections," the order said.
- Further, internet speed is restricted to second generation 2G networks, while the high-speed 4G networks will remain blocked.