DoT's Green Signal for 5G Trials

Why in news?

The Department of Telecommunications allowed private telcos and state-run telco MTNL to start trials for 5G technology as well as its applications in various sectors.

Which firms are allowed?

- Private telecos (telecommunication companies) include Bharti Airtel, Reliance Jio Infocomm and Vi (formerly Vodafone Idea).
- State-run telco Mahanagar Telephone Nigam Limited (MTNL) is also allowed to conduct trials.
- The trials will last for 6 months for now.
- 5G or fifth generation is the latest upgrade in the long-term evolution mobile broadband networks.
- 5G mainly works in 3 bands, namely low, mid and high-frequency spectrum, all of which have their uses and limitations.

Why are the trials for 5G technology important?

- The telecom market in India is left with only three private telcos.
- The rest have surrendered to the low returns on investments over the years.
- Apart from the private telecos, the two state-run companies, MTNL and Bharat Sanchar Nigam Limited (BSNL) have also survived but are making losses.
- In order to increase their average revenue per user, it is pertinent for telcos to start offering the new 5G technology as soon as possible.
- For that, however, they will have to conduct trials in a variety of circumstances.

- Apart from the telcos, it is also important that the government be ready to roll out the new technology as soon as possible.
- The telecom sector already faces issues such as –
    i. delays in approvals
    ii. inadequate availability of spectrum

iii. high spectrum prices
iv. poor development of use cases
v. low status of fiberisation, among others

- So, India could miss the 5G opportunity if not for early measures and programmes.

How will the trials be carried out?

- In the initial phase, these trials will be for 6 months.
- This includes a 2 month period for procurement and setting up of the equipment.
- In these 6 months, telcos will be required to test their set up in urban areas, semi-urban areas as well as rural areas.
- During this period, the telcos will be provided with experimental spectrum in various bands.
- The mid-band of 3.2 GHz to 3.67 GHz, the millimeter wave band of 24.25 GHz to 28.5 GHz, and others.

What are the advantages and limitations with these bands?

- The low band spectrum has shown great promise in terms of coverage and speed of internet and data exchange.
- But the maximum speed is limited to 100 Mbps (Megabits per second).
- This means that telcos can use and install it for commercial cellphone users who may not have specific demands for very high speed internet.
- However, the low band spectrum may not be optimal for specialised needs of the industry.
- The mid-band spectrum, on the other hand, offers higher speeds compared to the low band.
- But it has limitations in terms of coverage area and penetration of signals.
- Telcos and companies, which have taken the lead on 5G, have indicated that this band may be used by industries and specialised factory units.
- This would help build captive networks that can be moulded into the needs of that particular industry.
- The high-band spectrum offers the highest speed of all the three bands, but has extremely limited coverage and signal penetration strength.
- Internet speeds in the high-band spectrum of 5G has been tested to be as high as 20 Gbps (giga bits per second).
- On the other hand, in most cases, the maximum internet data speed in 4G has been recorded at 1 Gbps.

What were the issues resolved?

- In June 2019, the DoT had first approved 5G trials.
- However, there were multiple issues that came in the way.
- For instance, there was no clear roadmap of spectrum availability and 5G frequency bands aligned with the global standards.
- Typically, a 5G operator needs a contiguous block of 100 MHz of spectrum to offer any meaningful service.
- This meant the 175 MHz earmarked for 5G was grossly inadequate. This has now been resolved.
- There was also no clarity on whether Chinese equipment vendors, including Huawei and ZTE, will be allowed to supply 5G gear to Indian operators.
- This also has now been clarified with the DoT barring Chinese vendors from the trials.
- Over the past year, a number of Indian companies have developed 5G capabilities.
- The proposed trials will be a good opportunity to prove that these indigenous platforms can be viable alternatives to the Chinese vendors.

What are the concerns to be addressed?

- There is a need to move away from the existing mechanism of pricing spectrum on a per MHz basis.
- If the Centre were to fix the floor price based on the per Mhz price realised in the last auction, then no operator would be able to afford 5G spectrum.
- The Centre must also address the issue of financial stress in the sector to avoid a duopoly.
- The Centre should help by lowering licence fees and spectrum usage charges.
- With this, telecom companies can free up capital that can then be invested in network expansion.
- Finally, the regulator must ensure that operators are meeting the quality of service parameters of existing 2G and 4G networks before embarking on a new 5G platform.
- Consumers are still grappling with issues like voice call drops and interrupted data services.

Source: The Indian Express, Business Line



SHANKAR
IAS PARLIAMENT
Information is Empowering