

Airtel, Huawei successfully conduct 5G network trial in India

What in news:

- Airtel and Huawei have conducted India's first 5G network trial, which took place at Airtel's Network Experience Centre in Manesar, Gurugram.

About news:

- The setup for this 5G trial involved a 5G RAN that operated on a 3.5GHz network band, along with 5G Core and a 50GE network slicing router.
- In the duration of the tests, a user throughput speed of 3Gbps was achieved, which the companies claim is the highest for the 3.5GHz band.
- The tests were conducted within a 100MHz bandwidth, and resulted in a 1-millisecond end-to-end network latency.
- 5G services, based on a third-generation partnership project (3GPP), are expected to offer enhanced mobile broadband (eMBB) through R15 repeaters, that can cater to coverage requirements.
- In December 2017, 3GPP completed the first set of 5G New Radio standards. Under 5G technology, users are expected to be able to experience premium video quality across modes including, 360-degree, 4K, ultra-HD, along with virtual reality and augmented reality.
- Telecom operators and smartphone companies believe that 5G also holds the key to growth of artificial intelligence (AI) systems, and can enhance Internet of Things(IoT).
- "The promise of 5G is endless, it will be a game changer and, it will change the way we live, work and engage.

4G:

- 4G is the fourth generation of broadband cellular network technology, succeeding 3G.
- A 4G system must provide capabilities defined by ITU in IMT Advanced.

- Potential and current applications include amended mobile web access, IP telephony, gaming services, high-definition mobile TV, video conferencing, and 3D television.

5G:

- 5th generation mobile networks or 5th generation wireless systems, abbreviated 5G, are the proposed next telecommunications standards beyond the current 4G/IMT-Advanced standards, operating in the millimeter wave bands (28, 38, and 60 GHz).

3G VS 4G VS 5G			
	3G	4G	5G
DEPLOYMENT	2004-05	2006-10	BY 2020
BANDWIDTH	2mbps	200mbps	>1gbps
TECHNOLOGY	Broadband with/CDMA/IP technology	Unified IP and seamless combination of LAN/WAN/WLAN/PAN	4G + WWW
SERVICE	Integrated high-quality audio, video and data	Dynamic information access, variable devices	Dynamic information access, variable devices with all capabilities

Expected prelims question:

Q) consider the following statements

1. 5G services, based on a third-generation partnership project
2. Airtel and Huawei have conducted India's first 5G network trial

Which of above are/is correct statements?

- a) Only 1
- b) only 2
- c) Both 1 and 2
- d) None of above

Ans – c

Expected mains question:

Recently Airtel and Huawei have conducted India's first 5G network trial, in Gurugram. Analyse the difference between 4G and 5G broadband cellular network technology.