

**GOVERNMENT OF INDIA  
MINISTRY OF COMMUNICATIONS  
DEPARTMENT OF TELECOMMUNICATIONS**

**RAJYA SABHA  
UNSTARRED QUESTION NO. 517  
TO BE ANSWERED ON 6<sup>TH</sup> FEBRUARY, 2020**

**ESSENTIAL DIFFERENCE BETWEEN 4G NETWORK AND 5G SYSTEM**

**517. SHRI MANISH GUPTA:**

Will the Minister of COMMUNICATIONS be pleased to state:

- (a) whether the 5G wireless technology when adopted in the country will amount to a quantum leap in the world of wireless networks, if so, the details thereof;
- (b) what would be the essential difference between the existing 4G networks and the proposed 5G system; and
- (c) whether any fresh spectrum allocation is likely to take place in this connection in the current year, if so, the details thereof?

ANSWER

**MINISTER OF STATE FOR COMMUNICATIONS,  
HUMAN RESOURCE DEVELOPMENT AND  
ELECTRONICS & INFORMATION TECHNOLOGY  
(SHRI SANJAY DHOTRE)**

- (a) 5G technology has the potential for ushering a major societal transformation in India by enabling a rapid expansion of the role of information technology across manufacturing, educational, healthcare, agricultural, financial and social sectors. The 5G can unleash new economic opportunities and societal benefits to the extent that it may transform Indian society and help in actualizing the 'Digital India' vision.
- (b) The essential difference between the existing 4G technology and 5G Technology is as tabulated below:-

<b>Key Capabilities</b>	<b>4G</b>	<b>5G</b>
Peak Data Rate (Gbit/s)	1	20
User Experienced Data Rate (Mbit/s)	10	100
Spectrum Efficiency	1	3x
Latency (ms)	10	1
Connection Density (devices/km <sup>2</sup> )	1 lakh	10 lakh

- (c) The radio spectrum and the telecom licenses awarded by the Government are technology neutral and can facilitate deployment of any network/services. The Government had sought the recommendations of TRAI on the auction of spectrum in various bands, which includes the newly allocated band from 3300 MHz to 3600 MHz. The recommendations received from TRAI has been accepted by the Digital communications commission.

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