

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
RAJYA SABHA
UNSTARRED QUESTION No. 1242
ANSWERED ON 05/12/2024

STATUS OF THE ADVANCEMENT OF SUPER COMPUTING IN INDIA

1242 Shri S. Selvaganabathy:

Will the Minister of Science and Technology be pleased to state:

- (a) the details of measures taken to expand the country's interests in areas of advanced supercomputing and quantum computing;
- (b) whether the country has been developing indigenous quantum computers and if so, the details thereof;
- (c) the details of institutions/centres housing supercomputers as of now;
- (d) whether Government has planned to expand the number of supercomputers and if so, the details thereof; and
- (e) the details of funds allocated and utilized to develop and provide the super-computing facility for research and other allied areas?

ANSWER

MINISTER OF STATE (INDEPENDENT CHARGE) FOR THE
MINISTRY OF SCIENCE AND TECHNOLOGY & EARTH SCIENCES
(DR. JITENDRA SINGH)

- (a) Department of Science and Technology (DST) jointly with Ministry of Electronics and Information Technology is implementing a National Supercomputing Mission (NSM) to create supercomputing infrastructure and related human resource development (HRD) in the country. Through NSM, Government has created 33 supercomputing systems with a total capacity of 32 Peta Flop across the nation at 24 locations. HRD activities in this area are steered through five training centres at Pune, Kharagpur, Chennai, Palakkad, and Goa to expand the awareness and familiarization of supercomputing with college students and researchers. So far more than 20,000 people are trained through the supercomputing training programs. DST is implementing a National Quantum Mission (NQM) wherein four Thematic Hubs (T-Hubs) have been established in the country including one in the area of quantum computing. The major mandates of the T-Hubs include technology development, human resource development, entrepreneurship development and international collaborations in their respective technology verticals. The National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) has established 25 Technology Innovation Hubs (TIHs) in various institutes across the country in advanced technology verticals including in the areas of quantum computing and related areas.
- (b) NQM objectives include developing intermediate-scale quantum computers with 50-1000 physical qubits in 8 years in various platforms like superconducting and photonic technology.

(c) Supercomputers are housed in various institutions such as Indian Institute of Technology (IIT) (Gandhinagar, Goa, Guwahati, Hyderabad, Kanpur, Kharagpur, Madras, Mandi, Palakkad, Roorkee, Varanasi), National Institute of Technology, Trichy, Indian Institute of Science, Indian Institutes of Science Education and Research, Pune, Jawaharlal Nehru Centre for Advanced Scientific Research(JNCASR), Bengaluru, S. N. Bose National Centre for Basic Sciences, Kolkata, National Agri-Food Biotechnology Institute, Mohali(NABI), Mohali, Inter-University Accelerator Centre(IUAC), Delhi, National Centre for Radio Astrophysics, (NCRA), Pune, Society for Electronic Transactions and Security, (SETS), Chennai, National Informatics Centre, Delhi and various centres of C-DAC at Pune, Bengaluru, Delhi. These supercomputing systems offer a total computing power of 32 Peta Flop.

(d) NSM has planned to expand the number of supercomputers to select institutions including IITs with more compute power including 20 Peta Flop systems.

(e) An amount of Rs. 1874 crore has been allocated / utilized to develop and provide the super-computing facility for research and other allied areas. This includes funds for infrastructure creation, undertaking R&D in applied areas, applications, HRD and for mission management.
