GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
RAJYA SABHA
UNSTARRED QUESTION No. 449
ANSWERED ON 06/02/2025

PROMOTION OF SUPER COMPUTING TECHNOLOGY

449.   SHRI S. SELVAGANABATHY:
Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:
(a)   the details of measures taken to expand India's interests in areas of advanced supercomputing and quantum computing;
(b)   whether indigenous quantum computers are being developed in the country and if so, the details thereof;
(c)   the details of institutions/centres housing supercomputers as of now;
(d)   whether the Ministry 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 supercomputing 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, the Government has created 33 supercomputing systems with a total capacity of 33 Peta Flop across the nation. HRD activities in this area are steered through 5 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 22000 human resources are trained through Training programs. DST is implementing the National Quantum Mission. Under the Mission, a Thematic Hub (T-Hub) on Quantum Computing has been established at Indian Institute of Science (IISc) Bengaluru, with a mandate to advance technology development, human resource development, entrepreneurship development and international collaborations.

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)   Yes. The T-Hub on Quantum Computing is focussing on developing indigenous quantum computer technologies using superconducting qubits, neutral atoms, trapped ions, semiconducting qubits and photonic technology. Also, DST has supported startup in the area of quantum computing which focusses on development of quantum processor using superconducting qubits.

(c)   Supercomputers are housed in various institutions across the nation 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, Bengaluru, Indian Institute of Science Education and Research, Pune, Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru, S. N. Bose National Centre for Basic Sciences, Kolkata, National Agri-Food Biotechnology Institute, Mohali, Inter-University Accelerator Centre, New Delhi, National Centre for Radio Astrophysics, Pune, Society for Electronic Transactions and Security, Chennai, National Informatics Centre, Delhi and various Centres of C-DAC (Pune, Bengaluru and Delhi).

(d)   Yes. The Ministry has plans to expand the number of supercomputers to IITs and IISc, Bengaluru with more computing power.

(e)   An amount of Rs. 4500 crores have been allocated to NSM and about Rs. 2003 crores have been utilized to develop and establish supercomputing facility for research and other allied areas. This includes funds for creation of infrastructure, undertaking R&D in applied areas and applications, HRD and Mission management.

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