

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF SCIENCE & TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION No. 3292
TO BE ANSWERED ON 09/08/2023**

QUANTUM TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE

**3292. SHRI SUDHEER GUPTA:
SHRI PRATAPRAO JADHAV:
SHRI DHAIRYASHEEL SAMBHAJIRAO MANE:
SHRI BIDYUT BARAN MAHATO:
SHRI SHRIRANG APPA BARNE:
SHRI SANJAY SADASHIVRAO MANDLIK:**

Will the Minister of SCIENCE & TECHNOLOGY विज्ञान और प्रौद्योगिकी मंत्री be pleased to state:

- (a) whether India and United States has jointly launched a call for collaborative proposals on “Critical and Emerging Technology: Quantum Technologies and Artificial Intelligence for Transforming Lives” and if so, the details thereof;**
- (b) whether Indo-US Science and Technology Forum have designed a programme which aims to foster technology innovation and entrepreneurship in commercially viable and socially relevant areas;**
- (c) if so, the details thereof along with the salient features of the programme;**
- (d) whether the Government has also approved a National Quantum Mission and if so, the details thereof; and**
- (e) the details of the aims and objectives of the said mission?**

ANSWER

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

**विज्ञान और प्रौद्योगिकी राज्यमंत्री (स्वतंत्र प्रभार)
(डॉ. जितेंद्र सिंह)**

(a) to (c): The Department of Science and Technology, Government of India and the Embassy of United States, New Delhi, through U.S.-India Science and Technology Endowment fund (USISTEF) - administered by the Indo-U.S. Science and Technology Forum (IUSSTF) - has launched a call for

collaborative proposals on “Critical and Emerging Technology: Quantum Technologies and Artificial Intelligence for Transforming Lives”. Through the program, the USISTEF selects and supports promising joint U.S.-India technology innovation and entrepreneurial initiatives that are commercially viable and socially relevant.

The joint proposals can originate from U.S. and Indian entities including startups, government, academic, or commercial endeavors, and any combination thereof provided they focus on applied R&D, incorporate a business plan and proof of commercial concept, and have significant sustainable commercial potential. In quantum technologies, proposals could be on a specific area or a combination of different sub-categories that fall broadly under quantum technologies like quantum computing, quantum communication, quantum sensing and metrology, quantum cryptography, quantum algorithms, quantum imaging and quantum simulation involving hardware, software and algorithms or a system for specific applications. In Artificial Intelligence (AI) area, the call is open for trustworthy and explainable AI systems and technology solutions that are fair, transparent, safe, and have the potential to transform every walk of life.

(d): Yes, Sir. The Union Cabinet approved the National Quantum Mission (NQM) at an outlay of Rs. 6003.65 crore for a period of eight years.

(e): The main aims of the mission are to seed, nurture and scale up scientific and industrial R&D and create vibrant and innovative ecosystem in Quantum Technology (QT); and also to accelerate QT led economic growth and ecosystem to transform India among the leading nations in the development of QT. Key objectives of the mission include: Development of (i) intermediate scale quantum computers in various platforms like superconducting and photonic technology; (ii) satellite based secure quantum communications between two ground stations over a range of 2000 kilometres; (iii) inter-city quantum key distribution over 2000 km; (iv) multi-node Quantum network with quantum memories, entanglement swapping and synchronised quantum repeaters; and (v) extremely high sensitivity magnetometers. Design and synthesis of quantum materials for fabrication of quantum devices for development of qubits, single/entangled photon sources/detectors etc. are also included in the objectives.
