

GOVERNMENT OF INDIA  
MINISTRY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF SCIENCE & TECHNOLOGY  
**RAJYA SABHA**

**UNSTARRED QUESTION NO. 928**

ANSWERED ON 09/02/2023

**STEPS FOR DEVELOPMENT OF QUANTUM COMPUTING**

928. SHRI M. MOHAMED ABDULLA:

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

- (a) whether Government had taken any steps for the development of quantum computing and its applications which has become the most complex technological challenge till date;
- (b) if so, the details thereof; and
- (c) the details of the funds disbursed and utilized for the innovative development of quantum technologies and its applications in the country till December, 2022?

**ANSWER**

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

(a)& (b) Yes Sir.

(i) Department of Science & Technology (DST) is implementing the Quantum Enabled Science & Technology (QuEST) program which supports 51 projects across the country for ramping up research and development activities in quantum computing and related areas. DST is also implementing the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) under which 25 Technology Innovation Hubs (TIHs) have been established in reputed institutes across the country in advanced technology verticals. One of these hubs is set up at Indian Institute of Science Education & Research, Pune in the technology vertical of Quantum Technologies with the objective of carrying out research, translation and technology development in the areas of quantum computing and related areas.

(ii). Ministry of Electronics and Information Technology (MeitY) has established a Centre of Excellence (CoE) in Quantum Technologies which aims to build the sophisticated infrastructure for the development of Quantum Technologies which includes quantum computing. It is also working on the design and development of quantum computing toolkit which aims at developing indigenous quantum simulator for providing hands on experience to researchers on the quantum algorithms/programming.

(iii). Defence Research & Development Organisation (DRDO) is developing the quantum computing and its applications under National Plan of Quantum Information Technology (NPQIT).

(iv). Department of Telecommunication (DoT) is working on Quantum safe encryptors which aim to safeguard telecom networks from threats posed by advancements in quantum computers and Quantum Key Distribution (QKD) which generates secure key used to encrypt/decrypt data during transmission.

(c) Details of the funds disbursed, and utilized for the innovative development of Quantum Technologies & its applications till December 2022 is given below:

Rs. in Crores

<b>Organization</b>	<b>Program</b>	<b>Funds Disbursed</b>	<b>Funds Utilized</b>
DST	QuEST	152.34	70.00
	TIH on Quantum Technologies established under NM-ICPS	12.75	2.38
MeitY	CoE in Quantum Technologies	49.69	39.05
	Design and development of quantum computing toolkit	2.66	2.22
DRDO	Quantum computing under NPQIT	4.06461	3.40880
DoT	Quantum Safe encryptors and QKD	10.00	6.54

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