

Q-Sim

sanskritiias.com/pt-cards/q-sim-37

- Ministry of Electronics & Information Technology launched Q Sim Quantum Computer Simulator Toolkit, to enable Researchers and Students to carryout research in Quantum Computing in a cost effective manner. This is one of the first initiatives in the country to address the common challenge of advancing the Quantum Computing research frontiers in India.
- QSim is an outcome of the project 'Design and Development of Quantum Computer Toolkit (Simulator, Workbench) and Capacity Building'. This project is being executed collaboratively by IISc Bangalore, IIT Roorkee and C-DAC with the support of Ministry of Electronics and Information Technology.
- QSim Feature-
- Intuitive UI: QSim offers a robust QC Simulator integrated with a GUI based Workbench allowing researchers to create Quantum programs, visualize the instant circuit generation and simulated outputs.
- **Simulate noisy Quantum logic circuits:** Helps simulate Quantum circuits with and without noise and test how well various algorithms work with imperfect quantum components.
- **Pre-loaded Quantum algorithms:** QSim comes loaded with Quantum programs and algorithms providing a head start to the users.
- **Integrated with High performance computing :** The quantum simulations are performed on powerful High performance computing resources allowing multiple users to submit jobs simultaneously with different QuBit configurations.

