Block and District Level Science Seminar

Block Level : 03-10-2025

District Level : 06-10-2025

State Level : 09-10-2025

Attendee: 8th to 10th

National Science Centre, Delhi (A unit of NCSM)

Ministry of Culture, Govt. of India, New Delhi

STATE SCIENCE SEMINAR - 2025

(For students of Classes VIII to X)

Topic of the Seminar: Quantum Age Begins: Potentials and Challenges

क्वान्टम युग का आगाज़ : संभावनाएं एवं चुनौतियााँ

Venue of National Science Seminar: Visvesvaraya Industrial and Technological Museum, Bangalore

Date of National Science Seminar: 30th October 2025

RULES AND REGULATIONS

Introduction:

The objective of the Science Seminar is to inculcate a spirit of scientific enquiry and analytical thinking in

the minds of young students. The Science Seminar will be held on a competitive basis in the State. The

Seminar will be organized generally at Block, District and State level before culminating at the National

Level. Two or three winners of Block level seminars will participate at the District level seminars. Winner

from each district will participate in State level Seminar and only one winner from each State is eligible

for National level Science Seminar, which will be held at Visvesvaraya Industrial and Technological

Museum, Bangalore.

Participants: Students from class VIII to Class X only

Language: English, Hindi or any recognized Indian language

Duration: Each participant shall make the presentation on the given topic for a maximum duration of 6

minutes. This will be followed by a 2 minute Question-Answer Session with the Judges on the same

topic. Each participant will be asked 3 questions in the Question-Answer session after his/her

presentation by the judges and the participant will be required to answer any 2 of the questions within

two minutes.

Supporting Visuals: The maximum number of supporting visuals / slides / charts etc. permitted per

presentation is restricted to 5 nos. altogether. The details of these are as given below:

a) Charts/Posters-maximum size permitted is 850 mm (width) X 600 mm (height). All charts/posters

are to be mounted - one on top of other-as done in a calendar. One side of the chart/ poster is

considered as one unit. There should be no pop-ups.

b) Computer based Static slides (MS Office 2007 or higher in .ppsx, .pptx, .ppt, .pps format) without

additional features like pop-up, animation, rollovers, etc. No interaction within one slide is

permitted.

Grading : For evaluating and grading the presentations of the participants, Following criteria will be

judged:

1) Scientific Content in presentation - 40 marks

2) Novelty in use of visuals - 15 marks

3) Fluency in speech - 25 marks

4) Ability to answer questions

(a) Written Aptitude Test - 10 marks

(b) Answers to oral questions - 10 marks

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Total: 100 marks

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Note: 3D models, animation, pop-ups, rollovers, videos and films in any form are Not allowed

Special Note: At the time of deliberation, no Teacher or Escort shall be allowed to assist the participant on the dais except for physically challenged Students.

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Here’s a compelling and age-appropriate speech tailored for a ninth-grade student participating in the District Level Science Seminar on the topic **“Quantum Age Begins: Potentials and Challenges”**:

🎤 **Speech for District Level Science Seminar – Class IX Student**

**Respected judges, teachers, and fellow participants,**

Good morning to all of you. I’m [Student Name], a student of Class IX, and today I’m thrilled to speak on the topic: **“Quantum Age Begins: Potentials and Challenges.”**

We are standing at the edge of a new scientific revolution—the Quantum Age. Just like the invention of electricity changed the world, quantum science is about to reshape everything we know—from computing to medicine, communication to energy.

🔬 **What is Quantum Science?** Quantum science deals with the tiniest particles—atoms and subatomic particles. Unlike classical physics, quantum physics is strange and fascinating. Particles can be in two places at once, or change behavior just by being observed. Sounds magical, right? But it’s real science!

💡 **Potentials of the Quantum Age**

* **Quantum Computing**: These super-powerful computers can solve problems in seconds that would take classical computers millions of years. They can revolutionize fields like climate modeling, drug discovery, and cybersecurity.
* **Quantum Communication**: It promises ultra-secure communication that cannot be hacked—perfect for banks, governments, and even personal data.
* **Quantum Sensors**: These can detect diseases at a very early stage or help in precise navigation without GPS.

⚠️ **Challenges We Face**

* Quantum systems are extremely sensitive. Even a small vibration or temperature change can disturb them.
* Building and maintaining quantum computers is expensive and complex.
* There’s a shortage of experts in this field, and we need more young minds—like us—to take interest and lead the way.

🌱 **Conclusion** The Quantum Age is not just about machines—it’s about imagination, curiosity, and pushing the boundaries of what’s possible. As students, we must embrace this challenge, learn more, and prepare ourselves to be the scientists and innovators of tomorrow.

Let us be the generation that not only understands quantum science but uses it to solve real-world problems.

Thank you!

**The Quantum Age Begins: Potentials and Challenges**

*Absolutely, Jagdev! Here's a polished, competition-ready version of the speech tailored for a Ninth Standard student, aligned with the seminar rules and grading criteria. It’s designed to be delivered within 6 minutes, with clear scientific content, engaging visuals, and fluent delivery:*

*🎤 Science Seminar Speech – Class IX Student 🗓️ District Level | Topic: “Quantum Age Begins: Potentials and Challenges” 👩‍🔬 Language: English | Visuals: Max 5 static slides or charts*

Respected judges, teachers, and fellow science enthusiasts, Good morning. I’m [Student Name], from Class IX, and I’m honored to present on the topic: “Quantum Age Begins: Potentials and Challenges.”

We live in a world shaped by classical physics—gravity, electricity, motion. But today, we step into a new frontier: the Quantum Age. It’s not just a scientific shift—it’s a revolution in how we understand reality itself.

🔍 What is Quantum Science? Quantum science explores the behavior of the tiniest particles—electrons, photons, and atoms. Unlike classical physics, quantum particles behave in mysterious ways. They can exist in multiple states at once—this is called superposition. They can influence each other instantly, even across distances—this is entanglement. And they change behavior when observed—yes, observation affects reality!

It sounds like science fiction, but it’s the foundation of quantum mechanics—a field that’s now becoming real-world technology.

💡 Potentials of the Quantum Age Let’s explore three exciting applications:

1️⃣ **Quantum Computing** Imagine solving problems in seconds that would take today’s fastest computers thousands of years. Quantum computers use qubits instead of bits, allowing massive parallel processing. They can revolutionize: Drug discovery, Climate prediction, Cryptography and cybersecurity

2️⃣ **Quantum Communication** Using quantum entanglement, we can create ultra-secure communication channels. Any attempt to intercept the message changes its state—making hacking impossible. This is vital for banks, defense, and personal data protection.

3️⃣ **Quantum Sensors** These sensors are incredibly precise. They can: Detect diseases at the molecular level, Enable navigation without GPS, Monitor environmental changes with high accuracy

**⚠️ Challenges We Must Overcome With great potential come great challenges:**

**Fragility:** Quantum systems are extremely sensitive. A tiny vibration or temperature change can disrupt them.

**Cost and Complexity:** Building quantum computers requires ultra-cold environments and advanced materials.

**Talent Gap:** There’s a shortage of quantum scientists. We need more young minds—like us—to explore this field.

🌱 **Conclusion:**

Our Role in the Quantum Future

The Quantum Age is not just about machines—it’s about curiosity, imagination, and bold thinking. As students, we must: Learn the science

Ask big questions

And prepare to solve real-world problems using quantum tools

Let’s be the generation that doesn’t just witness the Quantum Age—but leads it.

Thank you!

Would you like help designing the 5 supporting visuals or preparing for the Q&A round?

I can also help translate this into Hindi or another Indian language if needed.