

# Report on the SCIENCE CAMP conducted at CIIE, Institute of Technology, Kashmir University for Vigyan Jyoti Scholars

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**Overview:** On 7th October 2024, a Science Camp was organized at the Centre for Innovation, Incubation & Entrepreneurship (CIIE), Institute of Technology, Kashmir University, exclusively for Class 10 Vigyan Jyoti Scholars. This camp provided a unique opportunity for the scholars to gain exposure to cutting-edge research, hands-on technical activities, and entrepreneurial insights, all aimed at broadening their understanding of science and engineering disciplines. The event was designed to foster curiosity, encourage innovation, and provide practical learning experiences that align with contemporary technological advancements.



## Activities Conducted:

### 1. Exposure to Research & Development (R&D) Laboratories:

The scholars were introduced to advanced research laboratories at the Institute, where they witnessed real-world applications of scientific principles. The R&D sessions were led by experienced faculty and lab assistants, making the learning process interactive and highly informative.

- a. Fluid Mechanics Lab:** Under the guidance of **Dr. Arjuman Rasool**, Assistant Professor, the scholars explored the fundamentals of fluid dynamics. They were introduced to topics such as fluid flow, pressure dynamics, and Bernoulli's principle. Dr. Rasool demonstrated experimental setups involving fluid behavior in different environments, helping the students visualize complex theories and understand the practical implications of fluid mechanics in engineering and natural systems.



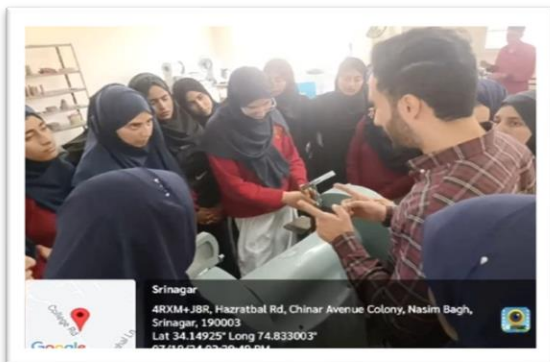
- **b. Basic Electrical & Power Engineering Lab:** In a session led by **Dr. Adil Yousuf**, Assistant Professor, the scholars were exposed to core concepts in electrical and power engineering. The focus was on understanding electrical circuits, power generation, and energy distribution systems. Hands-on demonstrations allowed the students to engage with electrical components, helping them grasp the basics of power engineering, voltage regulation, and the operation of electrical machinery.
- **c. Control System Lab:** Guided by **Dr. Mohammad Ayoub**, Assistant Professor, and assisted by **Ms. Jaseera Khan** and **Ms. Farkhanda Shafiq**, Lab Assistants, the scholars delved into control systems and automation. They were taught how feedback mechanisms work in real-time systems, and how control systems are integral to modern automation technologies such as robotics, industrial processes, and aircraft control. The session also involved practical experiments that helped students understand system modeling, stability, and response to varying inputs.



- **d. CNC Lab:** The Computer Numerical Control (CNC) Lab session was directed by **Dr. Farooq Ahmad Najar**, Assistant Professor, with assistance from **Mr. Sajad Hamid**, Lab Assistant. CNC machining was introduced as a critical technology in precision manufacturing. Scholars were given a detailed explanation of how CNC machines are programmed to execute complex machining operations with high precision, offering an understanding of the role of automation in modern industry and product development.

## 2. Hands-on Workshop Activities:

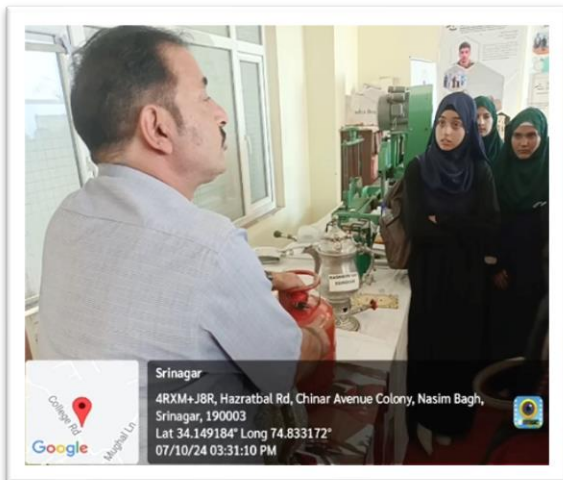
A session dedicated to hands-on activities at the **Central Workshop** provided the scholars with a practical experience in basic engineering processes. Here, they applied theoretical knowledge to physical tasks, such as assembling mechanical components, working with tools, and observing the operation of industrial equipment. This interactive session allowed them to develop an appreciation for craftsmanship, precision engineering, and the application of engineering principles in real-world scenarios.





### 3. Innovation Exhibition Hall Tour:

A guided tour of the **Innovation Exhibition Hall** was organized to showcase the latest innovations and technological advancements achieved by the Institute. **Hashmat Nazir**, Senior Field Researcher, and **Sanna Yaqoob**, Office Assistant, led the tour, where the scholars were exposed to breakthrough technologies and research projects. The exhibits highlighted innovations in fields such as renewable energy, sustainable technologies, and industrial automation. The tour emphasized the importance of creativity and problem-solving in driving technological progress.



### 4. Presentation on Innovation, Design, and Entrepreneurship:

An inspiring and insightful session was conducted by **Er. Junaid Ayob**, Technical Associate, who delivered a presentation on **Innovation, Design, and Entrepreneurship**. This session aimed to instill a mindset of innovation among the scholars by encouraging them to think creatively and pursue entrepreneurial ventures in science and technology. The presentation covered topics like design thinking, product development cycles, and the significance of entrepreneurship in solving real-world problems. The interactive segment of the session allowed students to ask questions and engage in a discussion on how innovation can transform industries and societies.



**Conclusion:**

The Science Camp at CIIE, Kashmir University, was a resounding success, providing the Vigyan Jyoti Scholars with invaluable exposure to scientific research, technical skills, and entrepreneurial insights. The camp's well-rounded approach—combining theoretical learning, practical experience, and innovation-oriented discussions—enabled the students to deepen their understanding of core STEM concepts.

Through this immersive experience, the scholars not only enhanced their technical knowledge but also gained a better perspective on the interdisciplinary nature of modern science and technology. The camp inspired them to pursue further studies and careers in STEM fields, with a strong emphasis on innovation and entrepreneurship.

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