

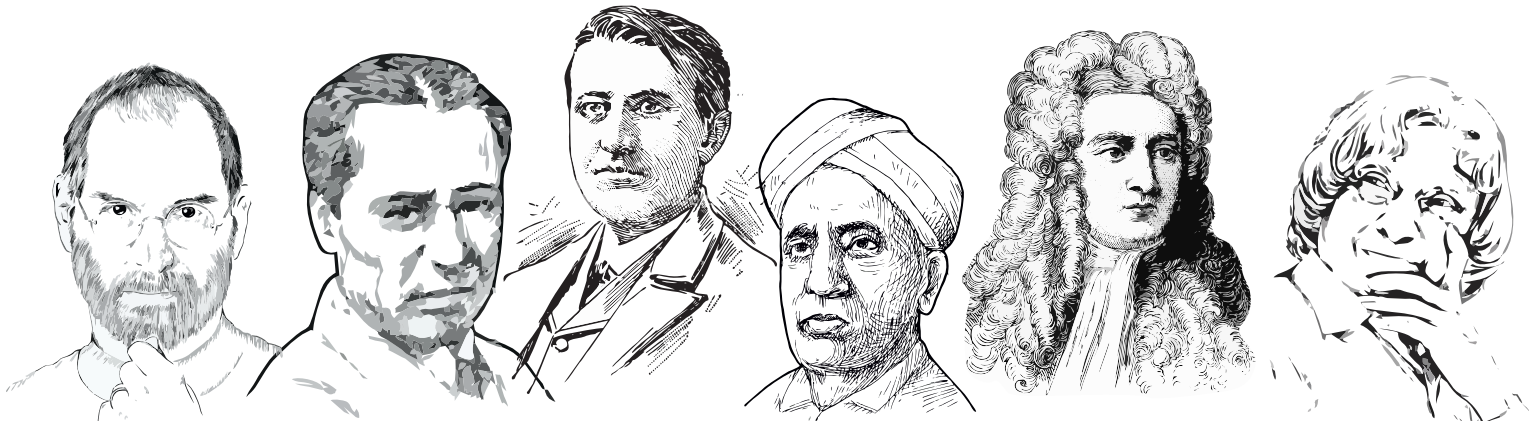
kamp

KNOWLEDGE & AWARENESS
MAPPING PLATFORM



amplifying

Scientific Temper for
Nation Building



In Knowledge Alliance with



सीएसआईआर - राष्ट्रीय विज्ञान, प्रौद्योगिकी और विकास अध्ययन संस्थान (निस्टैड्स)
CSIR - National Institute of Science, Technology and Development Studies (NISTADS)

A Constituent Laboratory of CSIR, Ministry of Science & Technology, Government of India

CSIR - NISTADS

हमारी युवा पीढ़ी का विज्ञान के प्रति आकर्षण बढ़ना चाहिए। देश को बहुत सारे वैज्ञानिकों की ज़रूरत है। आज का वैज्ञानिक आने वाले युगों में, आने वाली पीढ़ियों के जीवन में स्थायी बदलाव का कारण बनता है।

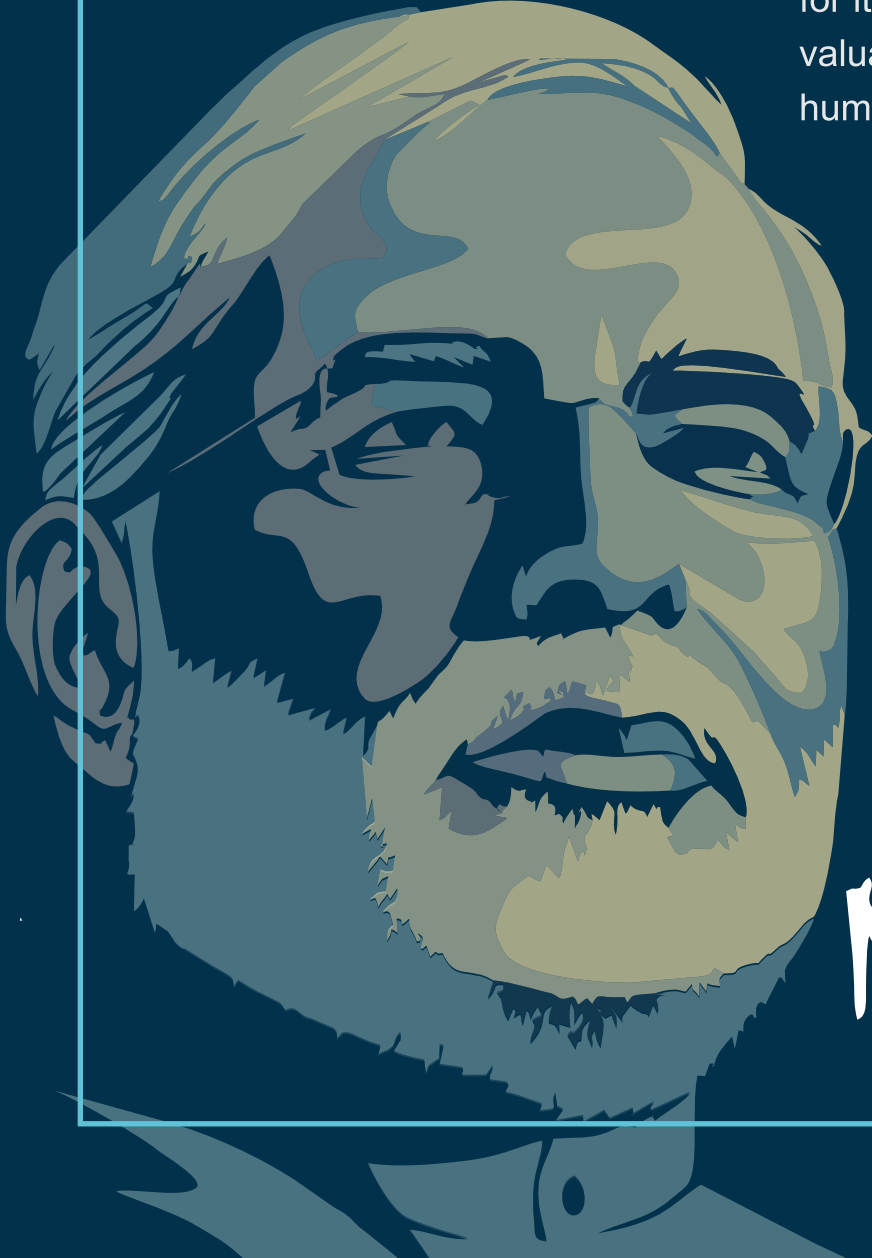
विज्ञान जब जन-सामान्य की आवश्यकताओं को ध्यान में रख करके, उन सिद्धांतों का सहज उपयोग कैसे हो? उसके लिए माध्यम क्या हो? टेक्नोलॉजी कौन सी हो? क्योंकि सामान्य मानव के लिए तो वही सबसे बड़ा महत्वपूर्ण योगदान माना जाता है।

The attraction of Science for our young generation should increase. The country needs more and more scientists. Today's scientist becomes a potent catalyst for enduring change in the lives of our future generations.

When Science is harnessed keeping in minds the needs of common folk, when ways and means to naturally use those principles for people's requirements are devised, when appropriate mediums and technology are deliberated upon, it paves the way for it to be considered the most valuable contribution for general humanity.

Ref:
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Knowledge and Awareness Mapping Platform (KAMP)

Knowledge and Awareness Mapping Platform “KAMP” is an International intellect E-based assessment platform to evaluate cognizance of 21st century skills, awareness and knowledge of Science, Technology & Humanities among students.

VISION

To identify and capture Scientific and Technological temperament in students to make "India -A Global Leader in the Field of Science, Technology & Humanities”

Director's Message

"CSIR-NISTADS is one of the premier institutes of the country to provide inputs to policy makers for formulating the policy of Science, Technology, Innovation (STI) and entrepreneurship. Knowledge and Awareness Mapping Platform (KAMP), aimed to develop and map the Scientific Temperament of children, will help nurture innovation and creativity from an early age. The analysis of the mapping data would be used to create inputs for S&T policy so that new generation of scientific leaders are produced in the country."



Dr. Ranjana Aggarwal
Director, CSIR-NISTADS

Knowledge and Awareness Mapping Platform (KAMP) is an initiative and Knowledge Alliance of Council of Scientific and Industrial Research-National Institute of Science Technology and Development Studies (CSIR-NISTADS), Under Department of Scientific and Industrial Research, Govt. of India with our industrial partner, M/s NYSA Communications Pvt. Ltd. (NCPL), Noida, UP. it intends to develop creativity, meaningful learning, critical reading and thinking skill that brings out the inherent abilities of the students.

CSIR-NISTADS is one of the constituent laboratories of the Council of Scientific and Industrial Research (CSIR), Ministry of Science & Technology, Govt. of India, New Delhi. The Institute is devoted to research on policy, policy advisory and provide research support to national S&T agencies on science, technology, society and innovation challenges.

CSIR-NISTADS is a pioneering research organization in realm of S&T policy research in the areas of Innovation systems, S&T Human resources, Rural development, MSME, Global governance, Climate change, Energy and Environment and other domains related to STI (Science, Technology and Innovation) policy.

One of the pressing issue of India is that young students are not attracted to opt science as a career, and therefore, there is a strong need to address this issue.

What is Scientific Temper?

Scientific temperament refers to an individual's attitude of logical and rational thinking. An individual is considered to have scientific temper if s/he employs a scientific method of decision-making in everyday life. The term was first coined by India's first Prime Minister, Jawaharlal Nehru, in his book 'The Discovery of India'.

"A Statement on Scientific Temper" prepared by a group of scholars and issued on behalf of the Nehru Center, Bombay, in July 1981, mentions that "Scientific Temper involves the acceptance, amongst others, on the following premises:

- (a) The method of science provides a viable method of acquiring knowledge;
- (b) The human problems can be understood and solved in terms of knowledge gained through the application of the method of science;
- (c) The fullest use of the method of science in everyday life and in every aspect of human endeavor from ethics to politics and economics is essential for ensuring human survival and progress;
- (d) That one should accept knowledge gained through the application of the method of science as the closest approximation of truth at that time and question what is incompatible with such knowledge; and that one should from time to time re-examine the basic foundations of contemporary knowledge."

Indian Constitution on Scientific Temperament

Article 51 A of our constitution which deals with fundamental duties makes it a duty of every citizen to develop **Scientific Temper; (as per clause [h])**. It is the Scientific Temper that helps in developing Secularism, Humanism & Spirit of enquiry and reform.

The Government of India, through the **National Council for Science and Technology Communication**, dedicated the **28 February National Science Day of 2014** to the theme "**Fostering Scientific Temper**"

Knowledge and Awareness Mapping Platform (KAMP) is the first initiative taken by CSIR-NISTADS and NCPL, to map Scientific temperament and Attitude of young students based on their assessment outcome and nurture them as future scientists of the country. It believes that every student is blessed with a core talent and aims to bring out the best in them through this platform.

"For, each man can do best and excel in only that thing of which he is passionately fond, in which he believes, as I do, that he has the ability to do it, that he is in fact born and destined to do it."

Homi Jehangir Bhabha



National Assessment for Scientific Temperament and Aptitude (NASTA)

National Assessment for Scientific Temperament and Aptitude (NASTA) is designed and developed for the elementary to middle school students. This is one of the primary initiatives under KAMP. It is an Attribute Based assessment as against only Subject Based Assessment.

Need of NASTA

- Building concept to develop the understanding of the scientific aspects of the nature.
- To help student identify their hidden talent and provides a platform for self-assessment.
- Mapping and help nurturing the scientific aptitude among students.
- NASTA will provide comprehensive, integrated approach in assessing the scientific temperament of young brains.

Objective

- Mapping and helping students / parents to identify scientific aptitude & enable them to understand their inherent potential for different career choices.
- Awareness among students on the latest developments in emerging technologies like Robotics, IOT, Artificial Intelligence etc.
- Map specific attributes essential to become a successful scientist or technologist.
- Infuse a healthy competitive spirit through rewards, based on performance levels.

Impact and Outcome

- Identify learning outcome levels of students in India and abroad.
- Comprehensive advisory for students/parents which will help in identifying the areas of strength.
- Data and Analytics will support policy makers to analyze current learner's level.
- Support schools to provide an enabling environment to identify students with unique skill.
- Help nurture their skills/talents by creating District KAMP - Junior Scientist Club.

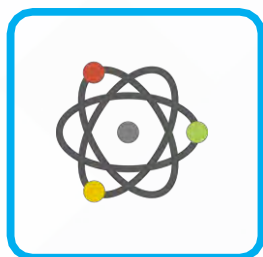
*“Genius is 1%
inspiration & 99%
perspiration.”*

Thomas Edison

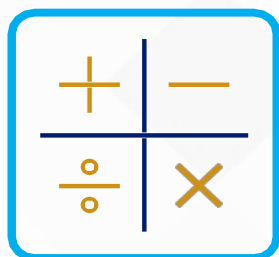


Assessment Overview

National Assessment for Scientific Temperament & Aptitude (NASTA) includes a range of specific subjects at grades 5th to 10th to provide a comprehensive look at the wide array of academic areas that are a part of a student's education. Subjects include Science, EVS/Social Science, Mathematics and Digital Literacy/Computers/Information Technology. KAMP Planning & Monitoring Committee sets NASTA policy, determines the assessment schedule and what content should be measured.



SCIENCE



MATHEMATICS



EVS/SOCIAL SCIENCE



DIGITAL LITERACY

NASTA is administered to students during regular school hours. Each student is assessed in defined subject areas. Students spend between 90 and 120 minutes taking the assessment. Questions will be 40% from the current class syllabus and 60% from the previous class syllabus. 30% questions will assess the awareness of the students on the given subjects, 40% questions will assess knowledge level and 30% Higher Order Thinking Skills (HOTS).

NASTA will be administered in English, Hindi or other regional languages. Student responses on NASTA are private, and the privacy of each participating school and student is essential. All students / schools of CBSE, ICSE / ISC and Other State Boards can participate in NASTA.

Assessment Indicators



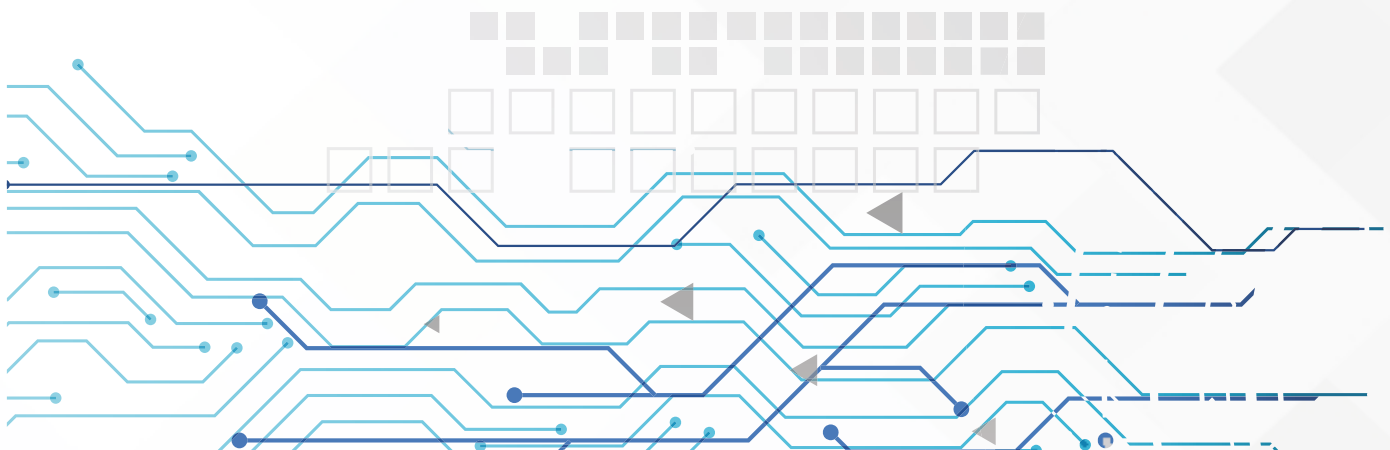
Assessment Indicators

NASTA indicators involve means and methods to reach scientific information and thus allows the student to think scientifically. Science process occurs naturally, spontaneously in our minds. By logically breaking down the steps in our thinking, we use science process to find out how to answer our questions about how the world works. National Assessment for Scientific Temperament & Aptitude includes the following attributes:

1. **Precision & Observation** - Using your senses to gather information about an object or event. It is description of what was actually perceived. This information is considered qualitative data.
2. **Creativity** is equally important as a means of adaptation. This attribute empowers students to see concepts in a different light, which leads to innovation.
3. **Critical Thinking & Problem Solving** - It is the most important quality for someone to have in health sciences. It refers ability to use knowledge, facts, and data to effectively solve problems. This doesn't mean that one need to have an immediate answer, it means that student should be able to think on their own, assess problems and find solutions.
4. **Prediction & Interpretation** - Guessing the most likely outcome of a future event based upon a pattern of evidence.
5. **Communication Skills & Collaboration** - Using words, symbols, or graphics to describe an object, action or event. Collaboration means getting students to work together, achieve compromises, and get the best possible results from solving a problem.
6. **Social Skills & Empathy** are crucial to the ongoing success of a professional. Business is frequently done through the connections one person makes with others around them.

How Indicators are Valuable?

- ⌘ Foster young minds with higher forms of thinking in education, such as analysing and evaluating concepts, processes, procedures and principles, rather than just remembering facts (rote learning).
- ⌘ Improving students' cognitive development and facilitating students' active participation during teaching and learning process
- ⌘ These indicators work hard with the scientific knowledge and scientific attitudes to help students to think systematically
- ⌘ Help teachers to adopt different approaches to help students acquire knowledge, skills and experience
- ⌘ They form the core of inquiry-based learning.



Assessment Report and Advisory

For Students and Parents

- Comprehensive assessment report with findings and advisory from experts for each attributes.
- A student will be aware of self-assessment and the scientific temperament towards learning science and other related subjects.
- The Assessment Report and Advisory will facilitate students' development as independent learners in order to monitor, evaluate, and regulate their own learning.
- At the same time reflect on the information provided through the report on their performance, achievement areas and the areas that require attention.

For Schools and Educators

- An overview of student performance at school / district / state level and utilising data to improve the student learnings.
- Student outcome results with regard to learning achievement and engagement for the current academic year.
- Benchmark to target important efforts that raise the bar for student achievement and better planning in emerging the students in a meaningful way.
- Diagnostic information to inform program planning and resource allocation and implementation of improvement strategies for further student learning achievement provided through the report on their performance, achievement areas and the areas that require attention.

For Policy Makers

- KAMP Assessment Report will provide a concise summary of the school's achievement and progress through the district and state-wise analysis that would also highlight comparison with the national / international education standards and outcomes.
- Complete analysis of current learner's level and matrix, analyzing the curriculum and take necessary changes.
- Policy Makers, researchers and educators will use NASTA results to inform educational improvements across India.

Benefits to Students

- Enable students to understand their inherent potential for different career choices.
- Students can work on various Research Projects based on their interest.
- Access to KAMP newsletters, updates, events, seminar and workshop.
- Opportunity to be a part of “National Science Carnival” organized every year.

Benefits to Parents

- Comprehensive advisory will enable the parents to gauge student's performance across different attributes.
- Reflect on the information provided through the report on student's performance, achievement areas and the areas that require attention.
- Help parents to identify the student's area of interest.

Benefits to Nation

- It may help in realigning the curriculum with more emphasis on the mastery of basic process skills in science.
- It may support to readdress the policies that can be implemented by the Government for building the scientific temperament among students.
- Eventually it may serve as basis for future related studies of similar areas of interest.
- The community may be inspired to send their children to school to further equip them not only with knowledge, but also with skills and appreciation of education for future employment.

Benefits to Schools

- School comparison data to gauge the performance level of school viz. a viz. other schools on broadly similar assessment attributes.
- The school may serve as motivators to students with Basic Process Skills and attitude towards Science.
- Advisory and Finding information in assessment report for implementation of improvement strategies for further student learning achievement.
- Recognition to the school on the basis of student's performance

Awards & Recognition

NATIONAL LEVEL

STATE LEVEL

DISTRICT LEVEL

STUDENT AWARDS



TEACHER AWARDS



SCHOOL AWARDS



- Grade - wise toppers will be awarded as Jr. Scientists at National Level.
- Sponsored International/National Visits to Research Organizations like – NASA, USA, Googleplex, USA, The Bose Institute, Kolkata etc. for National Level winners
- Sponsored National Visits to National Science Laboratories of CSIR, ISRO, BARC, DRDO etc. for State Level winners
- District level Visits to Science Research Center and Laboratories
- Participation Certificate to all Students and Schools with an advisory in the KAMP assessment report
- Each participant will become a part of KAMP Junior Scientist Club.
- School representation at District KAMP - Junior Science Club (K-JSC).

**** Visit <http://kamp.nistads.res.in/> for more details**

KAMP - Junior Scientist Club (K-JSC)

KAMP brings an opportunity for students to become a part of National Scientist Community by creating “KAMP-JSC” [Knowledge and Awareness Mapping Platform-Junior Scientist Club] in each District.

KAMP-JSC will provide a platform to nurture scientific temperament for students to become a Creator, an Innovator and a Problem Solver!!

Mission / Objectives of KAMP-JSC

- Bringing scientific awareness among students.
- To Promote STEAM Education and to help students learn science differently.
- Disseminate information on Science & Technology (S&T).
- Reach out to fellow students especially in remote areas to popularize science.
- Stimulate spirit of curiosity, inquiry, innovation and creativity to supplement conventional education and foster scientific temper.

How KAMP-JSC will be formed at District level?

- KAMP-JSC will be a District Level Self-Sustainable Club.
- Schools and students enrolled for KAMP will be member of KAMP-JSC.
- In each district 1 school will be selected as KAMP Facilitation Center and School Principal will be District President of JSC.
- KAMP meet, events and conferences shall be organized at KAMP Facilitation Center.

Benefits of K-JSC

- Access communication materials provided by KAMP are free of cost or at attractive discounts (depending on availability).
- Exchange view and ideas, express opinions and gain insight (s) into a vast array of activities of other clubs through the KAMP / KAMP newsletter.
- Participate in programmes including trainings and campaigns organised by KAMP.
- Get together with other K-JSC at the regional level to form cluster to organize such programmes as trainings, workshops, jathas, lecture-cum-demonstrations etc. for which KAMP could provide assistance in the form of resource persons, course materials and kits, and other necessary inputs- in response to a proposal for specific activities.
- Get national exposure and recognition through the KAMP website.

“Science is a beautiful gift to Humanity; we should not distort it.”

- A. P. J. Abdul Kalam



Kamp Planning and Monitoring Committee [KPMC]

KPMC is a monitoring committee which includes representatives of CSIR laboratory (CSIR-NISTADS), NCPL & other members of Industry. KPMC monitors, provides direction, vision, advice and road-map on the conduct, quality & upgrades of KAMP. KPMC is a body that provides consultation and advice for the construction and development of KAMP, and it is a bridge by which KAMP will become the India's first leading knowledge awareness platform in the field of Science, Technology & Humanities.



Prof. B. B. Dhar
Chairman - KPMC
Former Director - CSIR - CMRI



Mr. Puneet Kumar
Secretary - KPMC
Chairman - NCPL



Dr. Prashant Goswami
Member - KPMC
Former Director, CSIR-NISTADS



Dr. Naresh Kumar
Member - KPMC
Head BDG, CSIR-NISTADS



Dr. Vipin Kumar
Member - KPMC
Head PME, CSIR-NISTADS



Dr. (Mrs.) Kasturi Mandal
Member - KPMC
Sr. Scientist, CSIR-NISTADS



Mr. Rajeev Gupta
Member - KPMC
Managing Director - Resource Development
International (India) Pvt. Ltd.



Mr. Ashish Kumar Mittal
Member - KPMC
Vice President - NCPL



Mr. Yadwinder Mittal
Member - KPMC
Vice President - NCPL

Kamp Advisory Committee [KAC]

KAMP Advisory Committee (KAC) is a panel of experts for guidance on various aspects like subjects, curriculum questions, evaluation parameters etc. which will help KAMP evolve into robust and credible Global Assessment Platform for building & recognising Scientific Temperament & Innovation in students from an early age. KAC will comprise with eminent persons from Science & Technology, Education, Administration and Industry.

Dr. Ranjana Aggarwal
Director, CSIR-NISTADS

Prof. B. B. Dhar
Chairman, KPMC

Mr. Puneet Kumar
Secretary, KPMC

Dr. V. N. Ojha
Former Chief Scientist, CSIR-NPL, New Delhi

Dr. Tabassum Jamal
Former Chief Scientist, CSIR-NISTADS, New Delhi

Prof. Sudhir Kumar Sopory
Former Vice Chancellor, Jawaharlal Nehru University, New Delhi

Prof. Umesh Chandra Kulshrestha
Former Scientist, CSIR-IICT, Hyderabad
Professor - School of Environmental Sciences,
Jawaharlal Nehru University, Delhi

Mr. Ashok Pandey
Principal -Ahlcon International
Former Chairman – National Progressive Schools
Conference (NPSC)

Shri. Mukul Kanitkar
National Organizing Secretary, Bharatiya Shikshan
Mandal

Prof. (Dr.) Syed Mohammad Akhtar
Professor - Faculty of Architecture Ekistics, , Jamia
Millia Islamia, New Delhi

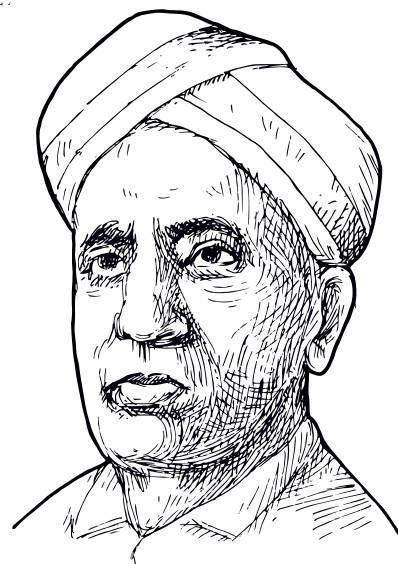
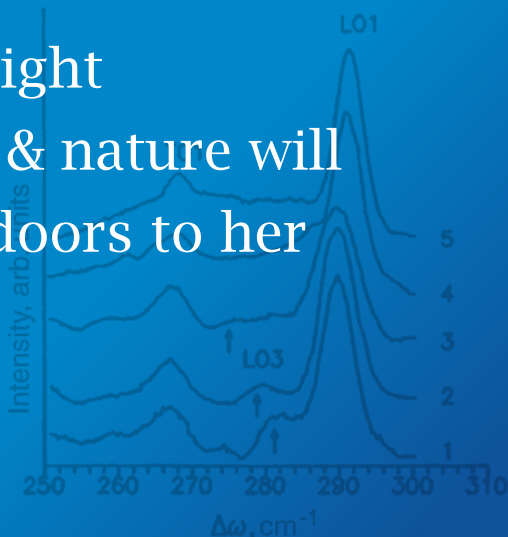
Mrs. Meera Balachandran
Director – Education Quality Foundation of India
Former Principal of Ramjas School, New Delhi

Ms. Soni Agrawal
Associate Professor at International Management
Institute Kolkata

Prof. C. P. Kaushik
Expert Member in NAAC, Ph.D - Environment Delhi

“Ask the right
questions & nature will
open the doors to her
secrets.”

- C. V. Raman



Member's Speak



PROF. K. VIJAY RAGHAVAN

Principal Scientific Advisor To Govt. of India

"KAMP is an ambitious and big program. There are lakhs of schools and small number of institution in the country. Let's start by having a specific set of schools and institution and as this program grows, more and more schools and institution will come together."



DR. SHEKHAR C. MANDE

Director General, CSIR, New Delhi

"Education is not necessarily a central subject, it is a federal structure. Central and state education system should associate in this national movement called "KAMP".



DR. D. K. ASWAL

Director - CSIR-NPL, New Delhi

One of the goals of CSIR-NISTADS is to provide inputs to policy maker for formulating the policy on Science, Technology, Innovation and Entrepreneurship. Knowledge and Awareness Mapping Platform (KAMP) is one of such initiatives of CSIR-NISTADS under which the young students will be mapped for their ingenuity and the best ones will be nurtured through various programs. The analyses of the mapping data would be used to create inputs for S&T policy so as new generation of scientific leaders are produced in the country.



PROF. B. B. DHAR

Chairman – KAMP Planning & Monitoring Committee

KAMP assess good quality education. Principle of science is vision, mission and execution. As quoted by Pt. Jawaharlal Nehru "Science and Technology is the only mean which can lead to the development of nation". KAMP will benefit student to be a better citizen of the nation.



DR. TABASSUM JAMAL

Former Chief Scientist, CSIR - NISTADS

"KAMP is a service which will provide dynamic questions to the schools. The schools will be benefited when these questions will trigger student's mind. The students will be able to think out of the box. This will also help the teachers to determine different kinds of learners."

Glimpse of Theme Meet on Knowledge and Awareness Mapping Platform



Brochure Unveiling Ceremony : (L-R) Prof. B. B. Dhar (Former Sr. Vice President, R.B.E.F. Amity University), Mr. Rajeev Gupta (Alumni – IIT BHU), Dr. V. M. Bansal (Co-Chairman, Education Committee, PHDCCI), Shri. Rakesh Upadhayay, Shri Anand Verma, Prof. K. Vijay Raghavan (Principal Scientific Advisor to Government of India), Dr. Shekhar C. Mande (DG CSIR), Shri Mahesh Verma, Dr. D. K. Aswal (Director, CSIR-NISTADS), Dr. Prashant Goswami (Former Director, CSIR - NISTADS), Shri Puneet Kumar (Chairman, NCPL), Dr. Tabassum Jamal (Chief Scientist & Head BDG, CSIR -NISTADS), Mr. Mukul Kanitkar (Akhil Bharatiya Joint Organizing Secretary of Bharatiya Shikshan Mandal)



PROF. K. VIJAY RAGHAVAN
With Students



Panel Discussion on
"Importance of Scientific Temper"



Dr. D.K. Aswal, Dr. S. C. MANDE,
Shri Mukul Kanitkar
KAMP Website Launch





kamp
KNOWLEDGE & AWARENESS
MAPPING PLATFORM

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