

Report on "Vigyan Par Charcha" Session-10

Speaker: Dr. Amrendra K. Singh
IIT Indore

Date: March 17, 2021

Faculty organizers (IIT Indore)

Dr. Niraj Kumar Shukla

Dr. Ashisha Kumar

Dr. Mrigendra Dubey

Rajya Shiksha Kendra, Bhopal

Dr. Ravendra Prasad Tripathi



Supports from other members of
IIT Indore:

Students Team:

Krishna Kumar

Mukul Bahedia

Naxshatram Shreyas

Others:

Mr. Lalit Jain

Mr. Sunil Sawle

Mr. Praveen Kaushal (IT- Department)

Title of Talk: “रसायन विज्ञान के उपयोग एवं कुछ जादुई प्रयोग”

Rashtriya Avishkar Abhiyan, Ek Bharat Shrestha Bharat, IIT Indore hosted new session of “Vigyan par Charcha-session-10 on “रसायन विज्ञान के उपयोग एवं कुछ जादुई प्रयोग” on dated March 17, 2021. This session was delivered by Dr. Amrendra K. Singh, Assistant Professor, in Chemistry Department at IIT Indore.

This session was delivered by Dr. Amrendra K. Singh, Assistant Professor, in Chemistry Department at IIT Indore. The session was live telecasted on YouTube with link <https://youtu.be/oAexRGzIauE> at IIT Indore, Rashtriya Avishkar Abhiyan (RAA) is a part of [Ek Bharat Shrestha Bharat\(EBSB\)](#).

Dr Niraj Kumar Shukla, *Convenor-EBSB, IIT Indore* hosted the session. In the beginning Dr. Shukla welcomed Dr. Amrendra K. Singh, Dr. Ravendra Prasad Tripathi, Nodal Officer, Rajaya Siksha Kendra, Bhopal Dr. Mrigendra Dubey EBSB Member, IIT Indore Dr. Ashisha Kumar (Team Leader RAA). Thereafter, Dr. Shukla give brief introduction about Dr. Amrendra K. Singh, related to their academia profession and his achievement so far and requested to take over the session.



Dr. Amrendra K. Singh started his lecture with thankful note for organising this series and allowed him to deliver the lecture on “रसायन विज्ञान के उपयोग एवं कुछ जादुई प्रयोग”. Dr. Singh explained the basic concept Use of Chemistry and some magical experiments, their properties with showcased PPT and experimental video which can easily see on You tube (the link https://www.youtube.com/watch?v=oAexRGzIauE&ab_channel=EkBharatShresthaBharatClub)

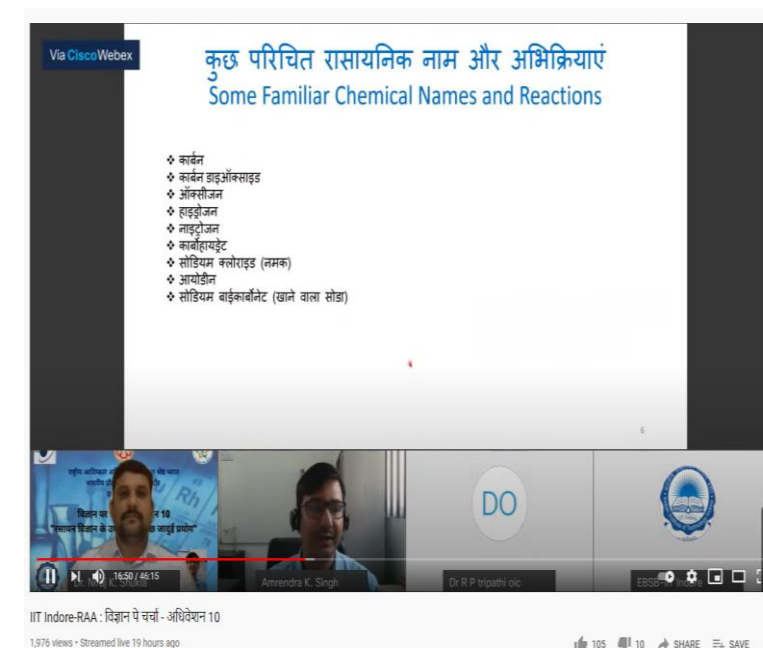
The purpose of the session, held by the professor of the chemistry department under the EBSB program, to fascinate students towards the discovery of the chemical world. In his lecture, he explained the definition of chemistry with examples of saltwater and fire. He showed many examples of chemical reactions and compounds by which we are already familiar and performing in our daily lives. Professor also showed the inflammable property of the hydrogen gas and how gas starts burning, evolved during the reaction and that's fascinating when he explained that we are already familiar with those reactions. Rusting of iron, gasses exchange by the animals during respiration, etc. are the example given by him. As well as photosynthesis and soap etc. His first experiment of chemical results in the bloody illusion was mind-blowing. Don't know how the transparent chemical turns red. But later he explained that it's nothing but and reaction between Ammonium thiocyanate and iron chloride. Also his second showed how CO² is formed during the reaction.

The effort that Dr. Amrendra Kumar and his team showed towards our program is very appreciating and we are very grateful to be a part of the lecture. The lecture was joined by more than 350+ users. Before ending the lecture Dr. Singh thanked to EBSB Convener, his team, and MP Govt. for promoting this event.

The vote of thanks towards the session was given by Dr. Mrigendra Dubey. The session was concluded by Dr. Niraj Kumar Shukla with thankful note to Dr. Singh for deliver this wonderful and useful session. Dr Ravendra Prasad Tripathi, Nodal Officer, Rajya Siksha Kendra, Bhopal also expressed their thanks to all EBSB, RAA Team Members (Dr. Ashisha Kumar (RAA Team Coordinator), Sunil Sawle, Praveen Kaushal, Lalit Ji etc.) for organising this useful session. Along with this, he requested to students, teachers to raise the questions as much as related to the topic.

Glimpse of Session-10

<https://youtu.be/oAexRGzIauE>



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Via CiscoWebex

कुछ परिचित रासायनिक नाम और अभिक्रियाएं

Some Familiar Chemical Names and Reactions

- कार्बन
- कार्बन डाइऑक्साइड
- ऑक्सीजन
- हाइड्रोजन
- नाइट्रोजन
- कार्बोहायड्रेट
- सोडियम क्लोराइड (नमक)
- आयोडीन
- सोडियम बाइकार्बोनेट (खाने वाला सोडा)

कार्बन + ऑक्सीजन → कार्बन डाइऑक्साइड + ऊर्जा

हाइड्रोजन + ऑक्सीजन → जल + ऊर्जा

$1 + 2 = 3$

IIT Indore-RAA : विज्ञान पे चर्चा - अधिवेशन 10

Via CiscoWebex

जादुई प्रयोग - 3

Magical Experiment - 3

आभार: नवदीप शीवास्त्व एवं आशु सिंह

$2H_2O_2 \rightarrow 2H_2O + O_2$

$HCl + NaHCO_3 \rightarrow NaCl + H_2O + CO_2$

IIT Indore-RAA : विज्ञान पे चर्चा - अधिवेशन 10

Via CiscoWebex

जादुई प्रयोग - 4

Magical Experiment - 4

आभार: राहुल कुमार सिंह एवं आशु सिंह

$CuSO_4 + 2HCl \rightarrow CuCl_2 + H_2SO_4$

$Zn + 2HCl \rightarrow ZnCl_2 + H_2$

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Via CiscoWebex

प्रकाश संश्लेषण की रासायनिक अभिक्रिया

Chemical Reaction of Photosynthesis

कार्बन डाइऑक्साइड + जल + प्रकाश ऊर्जा → ग्लूकोज + ऑक्सीजन

$CO_2 + H_2O + \text{प्रकाश ऊर्जा} \rightarrow C_6H_{12}O_6 + O_2$

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Via CiscoWebex

जादुई प्रयोग - 5

Magical Experiment - 5

आभार: शम्भुनाथ एवं दिव्या यादव

$2H_2O_2 \xrightarrow{KI} 2H_2O + O_2 + \text{Heat}$

IIT Indore-RAA : विज्ञान पे चर्चा - अधिवेशन 10

Via CiscoWebex

दैनिक जीवन में रसायन विज्ञान

Chemistry in Daily Life

लोहा + ऑक्सीजन + जल → जंग

$Fe + O_2 + H_2O \rightarrow Fe_2O_3 \cdot xH_2O$

जंग लगना

ग्लूकोज + ऑक्सीजन → कार्बन डाइऑक्साइड + जल + ऊर्जा

$C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O + \text{ऊर्जा}$

सांस लेना

IIT Indore-RAA : विज्ञान पे चर्चा - अधिवेशन 10

Thank You and Best Wishes



Ek Bharat Shreshtha Bharat IIT Indore