

J.J COLLEGE OF ARTS AND SCIENCE (Autonomous)

Sivapuram Post, Pudukkottai-622422

DEPARTMENT OF CHEMISTRY

Special Lecture Programme on "Chemistry-Concepts through Similes"

The Resonance Club of the Department of Chemistry, J.J College of Arts and Science (Autonomous), Sivapuram, Pudukkottai organized a special lecture programme on **15th July 2022**. **Dr.V.Nandhakumar**, Associate Professor and Head, Department of Chemistry, A.V.V.M Sri Pushpam College (Autonomous), Poondi, Thanjavur, delivered an inspirational speech on "Chemistry-Concepts through Similes".

In his lecture he defined the compositions of cleaning soaps and detergents. He explained how soaps and detergents react with water via binding motion and take away dirt and dust from garments. Further, he explained how sodium chloride dissolved in water by means of hydrolysis, solvolysis, diffusion and osmosis.

He pointed out, how we get over fever taking paracetamol to modulating the exothermic response of our body through sweating. He explained geometrical isomerism of cis and trans with help of "the vel and the cross" symbol and clarified the bond angle of staggered and eclipsed positions using the sitting position of the cat as a symbol.

He listed out various styles of chemical bonds such as ionic, covalent, coordinate and hydrogen bond and explained the formation of ionic bonds by using donor-acceptor electron concept and covalent bond formation by using sharing of electrons. He also listed the harmful effects of some chemicals like carbide. He explained the concepts of the osmosis and reverse osmosis using the example of dried grapes in puddings. He pointed out how the way we sweat before rains is an instance of the body balancing itself to changes in weather.

The speaker cleared all the doubts raised by the students. Dr.C.Muthukumar, Head of the Department of Chemistry, presided over the session and welcomed the gathering. Ms. Anagha.P.Ganesh of II M.Sc. Chemistry, proposed the vote of thanks.


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DEPARTMENT OF CHEMISTRY

Special Lecture Programme on "Surface Chemistry"

The Resonance Club of the Department of Chemistry, J.J College of Arts and Science (Autonomous), Sivapuram, Pudukkottai, arranged a special lecture programme on **22nd July 2022. Dr. A.Jafar Ahamed**, Associate Professor of Chemistry, Jamal Mohamed College (Autonomous), Trichirappalli, spoke on "**Surface Chemistry**".

In his lecture, he defined the basic concepts of surface chemistry like adsorbent, adsorbates and adsorption/absorption process. He explained in detail the Langmuir and Freundlich isotherms. He further spoke on catalysis and catalysts and their importance in synthetic chemistry, using suitable examples like Wilkinson catalyst, Zeigler Natta catalyst, Raney Nickel etc., Moving on to the practical applications of the concepts of surface chemistry, he explained, hoe they are exploited in clinical analysis and practice. They are also applicable in studied of drug and food assimilation.

After the lecture there was a constructive interactive session. The speaker clarified the doubts raised by the students and staff.

Dr.C.Muthukumar, Head of the Department of Chemistry, presided over the function. III B.Sc Chemistry of A.Balamurugan welcomed the gathering and P.Deepika of the III B.Sc Chemistry proposed the vote of thanks.


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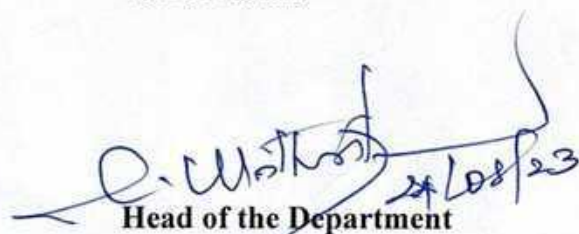
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Department of Chemistry

Special Lecture Programme on “NMR Spectroscopy”

Date : 05.08.2022

On 05.08.2022, Friday, the Resonance Club of Chemistry, J.J. College of Arts Science (Autonomous), Sivapuram, Pudukkottai, organized a special lecture on “NMR Spectroscopy”. In this, **Dr.R.Chitravel, Assistant Professor of Chemistry, Rajah Serfoji Government Arts College, Tanjavur** delivered a keynote speech. In his lecture, he explained the fundamental concepts of spectroscopy. The determination of elemental composition using an electromagnetic wave, and the next standard NMR spectrum, the proton and C^{13} states. NMR spectroscopy is an analytical technique. By this we can know the position and number of atoms in the molecule. An atom consists of electrons protons and neutrons. In which the electron is on the outside of the nucleus and the protons and neutrons are on the inside of the nucleus. As these two rotate around each other, a kind of electric charge is generated in the atom. When we send electromagnetic waves to that atom from the outside, the particles in the nucleus get a certain coherence and accurately report the atom in the molecule and the most widely used MRI scan in the medical field works on this basis. He said NMR spectroscopy is used in food chemistry as well as in medicine. It is also useful in the identification of amino acids and carotenoids. Similarly, it is also widely used in environmental monitoring and he explained clearly and finally answered the questions of the students. Earlier, **Dr.C.Muthukumar, Head of Department of Chemistry**, honoured the guests and gave a welcome speech, second year PG student **Mr.V.Arunkumar** also gave the vote of thanks.


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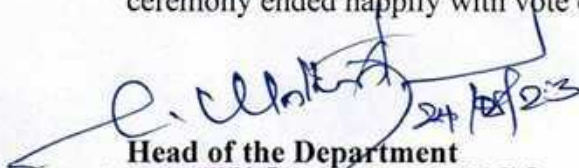
Department of Chemistry

Special Lecture Programme on Colour Chemistry

Date : 18.08.2022

The Resonance Club of Chemistry, J.J.College of arts and science, Sivapuram, Pudukkottai, organized a special lecture organized on 18.08.2022. **Dr.C.Pragatheeswaran, Assistant Professor, Department of Chemistry, Periyar EVR College, Tiruchirappalli,** addressed the topic on “**Colour Chemistry**”.

In his speech, he spoke about the many colours of chemical substances and how they are useful for human life. He explained their physical and chemical properties and their effects. For example colouring chemicals are used as food preservatives. Some of them are sodium benzoate, sulfur dioxide and sodium nitrate which inhibit the growth of microorganisms in food and protect food from spoilage. Similarly, vinegar made from acetic acid protects pickles from spoilage. Sodium benzoate, benzoic acid, etc. are added as flavourings to give green, red and orange colours to many of the soft drinks that we enjoy on a daily basis. Chemicals such as butylated hydroxytoluene (BHT) and butylated hydroxyl anisole (BHA) are added to fast food tomato chutney and gravy for flavour and colour. Nowadays, when everyone is suffering from diabetes, pills are used in food which can be prepared with chemicals that give a sugary taste. They only provide taste and keep blood glucose levels from rising. Erythrosine, allure red and some dyes are used as food colourings. The red, blue, purple, orange and green colours they give are attractive colours that attract us to eat food. He also said that mostly in restaurants and desserts such chemical substances with different colours are added. Because these are beautiful to look at and delicious to eat, we should not consume them as food often and because of them, minor ailments like indigestion, chest irritation, headache and major damages like cancer, birth defects, eye damage and infertility may come listed. So he advised the students that we can avoid many diseases by avoiding eating fast food in restaurants and sweets in desserts as much as possible. At the end he answered the questions of the students. Earlier, **Dr.C.Muthukumar, Head of Department of Chemistry,** welcomed the guests and honoured them with shawl. The ceremony ended happily with vote of thanks by **Ms.R.Karthiga Devi,** II M.Sc. student.


Head of the Department

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Department of Chemistry
Special Lecture Programme on "Organo Metallic Compounds"
Date : 14.09.2022

Dr.P.Christina Ruby Stella, Assistant Professor, Department of Chemistry, Holy Cross College, Tiruchirappalli, delivered a special lecture on "**Organometallic Compounds**" organized by the Resonance Club of Chemistry, J.J.College of Arts and Science (Autonomous), Pudukkottai – 622 422. She states in his text that organometallic compounds are the basis of the Grignard reagents. That is, the carbon atom and the metal are covalently bonded. It plays an important role in modern science. They are widely used as reaction catalysts and intermediates in the laboratory and industry. Chief among these are pyroxenes, a remarkably stable compound with two iron atoms sandwiched between hydrocarbon rings. These alloys are generally divided into two groups based on the metal. These are considered as s-block, p-block, d-and f-block components. Their physical and chemical properties vary greatly. Most are solids. In particular, hydrocarbon groups are found in ring form or as aromatic compounds. Many organometallic compounds are highly toxic. So easilyvolatile. Their properties are based on the types of carbon-metal bonds such as covalent, ionic and coordinate covalent, and the 18-electron rule. This was followed by a clarification of the Ziegler-Natta catalyst. Organometallic compounds are widely used in medicine. Cisplatin is one such drug that can cure cancer. He explained that these are widely used in food chemistry and in the manufacture of beauty products. At the endshe answered the questions raised by the students. Earlier, **Dr.C.Muthukumar**, Head of the Department of Chemistry welcomed the guests. Assistant Professor **Ms.K.Kalachelvi** honoured with shawl. **Mr.Mohammad Naseef**, II M.Sc. Chemistry, delivered the vote of thanks.


Head of the Department

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Department of Chemistry
Special Lecture Programme on “Job Opportunities in Paint industries”
Date : 23.12.2022

On Friday, 23.12.2022, the Resonance club of Chemistry, J.J. College of Arts and Science (Autonomous), Pudukkottai-622 422, organized a special lecture on **“Job Opportunities in Paint industries”**. Er.GM.Srinivasan B.Tech, the Director of Sriluck Paints, Harur, Dharmapuri district, was the special guest and gave a speech. In his text, paint consists of seven major categories. They are primarily water-based lime, emulsion and distemper. The second is the solvent-based automotive coatings such as toluene and xylene. Third is epoxy paints that can be applied to ships, boats, etc. that can travel on sea surface. These are also coated in swimming pools. This prevents the growth of algae and fungi. Fourth is the colour coating used in electronic equipment. These are very elegant as they are coated on the ionization front. The fifth paint is used in industrial equipment. These are red oxide, metal primer, and nickel topcoats designed to resist corrosion and heat the equipment. Sixthly, paints such as Senlac applied to wood, houses and window panes protect against fungi. The seventh type is the paint used on space-traveling aircraft and spacecraft. As these are specially prepared according to the pressure and temperature found in space, the seven types are clarified,

He explained that, students can choose any sections as per their choice. At the end he answered the questions of the students. Earlier, Dr.C.Muthukumar, Head of Department of Chemistry, honoured the guests and Ms.K.Vishali Annam, II M.Sc. Chemistry delivered the vote of thanks.


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Department of Chemistry

Special Lecture Programme on “Coordination Chemistry”

Date : 25.01.2023

On Wednesday, 25.01.2023, the Resonance Club of Chemistry, J.J. College of Arts Science (Autonomous), Sivapuram, Pudukkottai, organized a special lecture on **“Coordination Chemistry”**.

In this, **Dr.P.Christina Ruby Stella**, Assistant Professor, Department of Chemistry, Holy Cross College, Tiruchirappalli, was the special guest and delivered a keynote address.

In her lecture, she clearly explained the basic concepts of simple salts, double salts, atomic compounds, central metal ion, oxidation state, oxidation number and coordinationsphere. Werner elucidated the principle of covalent bonding and the principle of covalent bonding, which are the main principles of coordination chemistry. She explained clearly about its uses like making dye, knowing the hardness of water, chemical treatment against cancer, haemoglobin found in blood and chlorophyll in plants. At the end she answered the questions raised by the students. The event was presided over by the Head of the Department, Dr.C.Muthukumar. Ms.S.Kalaivani Assistant Professor, honoured the guest. Arrangements for the program were made by Assistant Professors Dr.R.Sivakumar, Dr.PJegajivanram, Ms. K.Kalachelvi, Ms.K.R.Ulagu and Ms.P.SandhyaPriya.

Ms.S.Haritha, I M.Sc. delivered the welcome speech and Mr.P.Paranjodi, III B.Sc. delivered the vote of thanks.


24/08/23
Head of the Department

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