

## PERFORMA OF EVENT

1. **Name of Department :- CHEMISTRY**
2. **Event:- SEMINAR**
3. **Date :- -7.11.2017**
4. **Title of the Topic:-GREEN CHEMISTRY**
5. **Name and Designation of the Resource Person(s): -Prof. Dr. Narayan Chandra Samal**  
Former HoD & Retired Professor, Department of Chemistry, Kendrapara Autonomous College, Kendrapara,
6. **Brief Introduction of the Resource Person: - Dr. Narayan chandra Samal** was a Faculty member & HoD of Chemistry, Kendrapara Autonomous college. His teaching experience was twenty nine years. He was a well invited Keynote speaker & Resource person to the different colleges of Odisha. He was a member of OCS (Odisha Chemical Society). He was a social worker for his area and invited Chair Person to different CBSE and ICSE Schools of our district and periphery district.
7. **Abstract of the Topic :GREEN CHEMISTRY**

**Resource person: Retd. Prof. (Dr) Narayan Chandra Samal,  
Kendrapara Autonomous college, Kendrapara.**

Green chemistry is the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. Green chemistry applies across the life cycle of a chemical product, including its design, manufacture, use and ultimate disposal. Green chemistry is known as sustainable chemistry/ environmental benign chemistry. It further emphasized that "Sustainable growth is dependent upon each nation achieving its full economic potential, while at the same time enhancing the environmental resource base upon which development must be anchored. Sustainable development is not a fixed state but a dynamic process of change." Green chemistry was coined by T. Paul Anastas of (USEPA) Washington ,DC, USA. Green chemistry reduces pollution at its source by minimizing or elimination the hazards of chemicals feedstock ,reagents, and products.

Green chemistry's 12 principles

1. Prevent waste: Design chemical syntheses to prevent waste . Leave no waste to treat or clean up.
2. Maximum atom economy: Design syntheses so that the final product contains the maximum proportion of the starting materials.
3. Design less hazardous chemical syntheses: Design syntheses to use and generate substances with little or no toxicity to either humans or the environment.
4. Design safer chemicals and product: Design chemical products that are fully effective yet have little or no toxicity.
5. Use safer solvents and reaction conditions: avoid using solvents. If you must use these chemicals, use safer ones.
6. Increase energy efficiency: Run chemical reactions at room temp. and pres. Whenever possible.
7. Use renewable feedstock: The starting materials (feedstock) that are renewable rather than

depletable. 8. Avoid chemical derivatives: avoid using blocking or protecting groups if possible. 9. Use catalyst, not stoichiometric reagents : minimize waste by using catalytic reactions. 10. Design chemicals and products to degrade after use: Design chemicals product to break down to innocuous substances after use. 11. Analyse in real time to prevent pollution: real time monitoring and control during syntheses to minimize or eliminate the formation of by product. 12. Minimize the potential for accident :- For a long time most of the chemical industry was concerned in designing chemical processes which ensures high conversion of starting material and high yield of the desired product. The idea of yield is useful, but from a Green Chemistry and sustainable development perspective, it is not the complete picture. This is because yield is calculated by considering only one reactant and one product. One of the key principles of Green chemistry is that chemical process should be designed so that the maximum amount of all the raw materials ends up in the product and a minimum amount of waste is produced.

Human race is going through a very important phase when the parameters governing its survival and survival of the mother earth are being critically examined. The concern of the global society as lead to new way of looking at the survival principle - Green chemistry being just part of this new paradigm. For chemist and chemical engineers this is also the best of times to work in surgery and contribute toward sustainable development through cutting age invention and innovation.

**8. Remark :** Name of the presiding person :- Prof. (Dr.) Heeramani Behura, Principal, TWC Kendrapara  
Convener: - Mrs. Pramilarani Behera, H.O.D Chemistry

**9. REPORT OF SEMINAR (GREEN CHEMISTRY) by H.O.D chemistry**

A seminar entitled “Green Chemistry” on dated 7.11.2017 at 3.30 P.M was organized by the department of Chemistry. Dr. Heeramani Behura, Principal of the College inaugurated the seminar by deliberating the welcome address to the seminar. Mrs. Pramilarani Behera, H.O.D, Chemistry introduced the guests present in the seminar. She explained the theme of the seminar topic on “Green Chemistry”. Prof. (Dr.) Narayan Chandra Samal was the resource person to the seminar. He delivered his speech about “Green Chemistry” through Power point presentation to the Chemistry Hons. students. He explained the benefits of Green Chemistry in human health environment, economy and business. Questions raised from the students were solved by the resource person properly. About 60 students including faculty members, demonstrator were actively participated and interacted with the resource person.

At last vote of thanks was given by Miss Swatishree Sahoo, +3 1<sup>st</sup> Year Science student, Chemistry Hons.

10. Photos of the seminar :-



