A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru

Academic Year 2017-2018

NAME OF THE EVENT: GUEST LECTURE

- **Topic**: **"CAREERS IN CHEMISTRY"**
- **Date Conducted:** 18-11-2017
- **Name and Designation of the Resource person:**

  Dr.B.GopiKalyan Kumar,

  Junior technical Officer,

  MPEDA, Bhimavaram

- **Report on the guest lecturer:**

  Objectives

  OPPORTUNITIES IN CHEMISTRY IN VARIOUS FIELDS.

  Notes on lecture

  The study of chemistry provides global work opportunities. Chemistry underpins understanding and progress in almost every sphere of science, technology and industry. It also makes a vital contribution to the economy, commerce and industry.
  Chemists can find employment opportunities in various work environments. Most chemists work in laboratories at research facilities or academic Institutions. Other chemists may find jobs at places such as manufacturing facilities, pharmaceutical companies, government agencies and product development businesses.

  - **Careers in Industrial Chemistry**

  The chemical, petrochemical, pharmaceutical, food processing, breweries, and other industries are areas where most chemists usually seek for employment after completing their studies. There are wide varieties of careers for chemists there, including working in the business side of the firm, such as sales and customer support departments. Here are some of them.

Research and Development Chemist: Research and development chemists help their companies to research and discover ways to improve on their products so as to provide more and better value for the customer and thereby remain competitive in the market. They also discover new marketable products which brings more revenue to their companies.

For instance, chemists in the cosmetics industry use their knowledge of chemistry to research and develop new fragrances, skin treatment solution, dyes, and other formulations that the company can market. Research and development chemists usually have PhD in chemistry fields; however, there are still numerous opportunities for BS or MS degree holders to work in the research and development department as technicians performing researches under the supervision of the chemist.

Quality Control Chemist: Quality control chemists in the industry help to check that the quality of their company's products is up to the desired standard before they are released into the market.

Production Chemist: Production chemists are responsible for translating the new products developed by the research chemists into something that can be mass produced by a manufacturing process. In performing their job, production chemists work closely with plant engineers in coming up with the right design of plant equipment to use for better productivity and costs.
Production chemists supervise production and make sure production process complies with environmental protection policies. They also check quality control.

Food Chemist: In the food processing industry, food chemists use their knowledge of chemistry to create foods with desirable qualities, such as better taste, longer shelf life, improved nutrition, healthy and safe to consume.

Chemical Sales Career: Chemists can pursue sales careers in the chemical industry. Chemical manufacturing companies need people with chemistry background to sell their products directly to target customers. Chemists are able to work with customers and to determine the type of products that would best enable the customer to realize their goal.

This job involves one-on-one dealings with customers and so requires a great degree of interpersonal relationship skills.
Chemical Marketing Career: Chemists can also be involved in the marketing of chemical products. In addition to their chemistry background, chemists who wish to pursue a career in marketing will need to take some training in marketing.

As a marketing professional, you will be involved in all processes that adequately publicize and compel target customers to buy your products. The job entails identifying and understanding your target customers and designing effective marketing strategies to reach and make them buy from you. It also involves studying sales and trends to predict the future.

Technical Service Career: The technical service professional's job involves helping customers to solve problems relating to the workability of the product and troubleshooting for customers with problems, questions or challenges. It also involves generating new applications for the products and creating instructional manuals to guide customers on how to use the products.

- **Chemistry Careers in Schools**

Schools offer the second largest places after the industries where graduates of chemistry can work. Chemistry teachers are needed to impart chemistry knowledge to students in high school, community college, college or university.

High School Teacher: All high schools need chemistry teachers to teach the subject. To teach in a public school you will also be required to have an additional qualification in education. Private schools may not however demand education qualification; with a B.S. degree in chemistry you can be hired directly.

Community College Teacher: Graduates with MS or PhD degrees in chemistry are qualified to teach general and organic chemistry in community colleges.

Undergraduate College or University Teacher: To be faculty member in a primarily undergraduate institution, you will almost need a PhD in chemistry. Your work will include to teach classes and labs, and to direct students' research projects.

Teacher at Research Universities: You will need to have PhD and some years of post doctoral experience may be required to be faculty in research universities, which offer BS, MS, and PhD degree programs. You will be involved in teaching undergraduate and graduate courses, and directing research projects for groups of undergraduate and graduate students.

Careers in Support Positions: With background in chemistry, you can work in a number of support positions that require technical background in colleges and universities. These job positions include lab technician and staff scientist, safety officer, and stockroom manager.

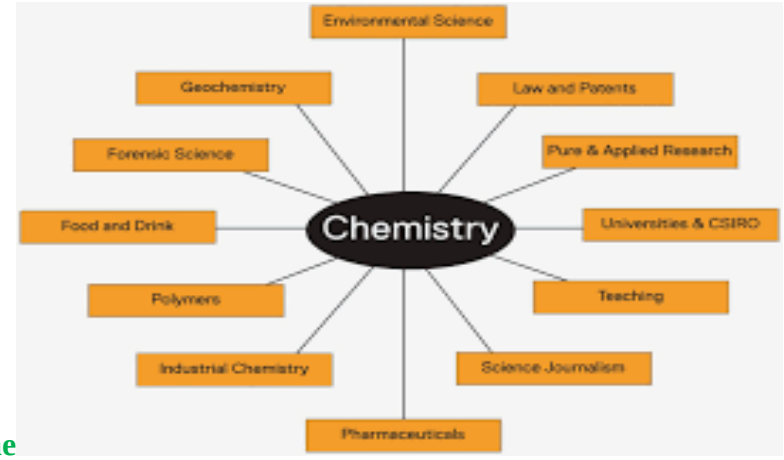
The lab technician and staff scientist operates research equipment and performs support duties for teaching and research. The safety officer is responsible for handling and disposing of harmful waste, and to ensure that all safety guidelines, including EPA are enforced. The storeroom manager is responsible for ordering and maintaining inventories of chemicals and supplies to support the schools research and teaching programs.

- **Chemistry Careers in Government**

A variety of job opportunities are available for graduates of chemistry in all levels of government – federal, state, and local government. For instance, the federal government runs national research laboratories across the country, which employ BS, MS and PhD graduates, including those with chemistry degrees, to research on a wide range of issues.

Other places that chemistry graduates can find employment with government are in government's regulatory agencies, such as the ATF, EPA, FBI, and FDA. These agencies employ chemists to carry out research and analysis so as to be able to effectively perform their role.

Also, chemists can build careers in forensic science and work with local, state, or national forensic science laboratories. This is because forensic science is based mainly on analytical chemistry and biochemistry.



Outcome

Lecture was received by all third B.Sc Students Impressively.and they get knowledge on chemistry careers. the lecture of Dr.B.GopiKalyan Kumar was very impressed.

- PHOTOS

Inagural session

Interaction with students

Signature of the HOD

A.G & S.G Siddhartha Degree College of Arts & Science, Vuyyuru

Academic Year 2017-2018

2.NAME OF THE EVENT: GUEST LECTURE

- Topic: **'ESR Spectroscopy'**
- Date Conducted: **19.02.2018**

- Name and Designation of the Resource person
  :**DrM.Sivanadh** Associate Professor in Chemistry, A.N.R College, Gudivada

- **Report on the guest lecturer:**

Objectives

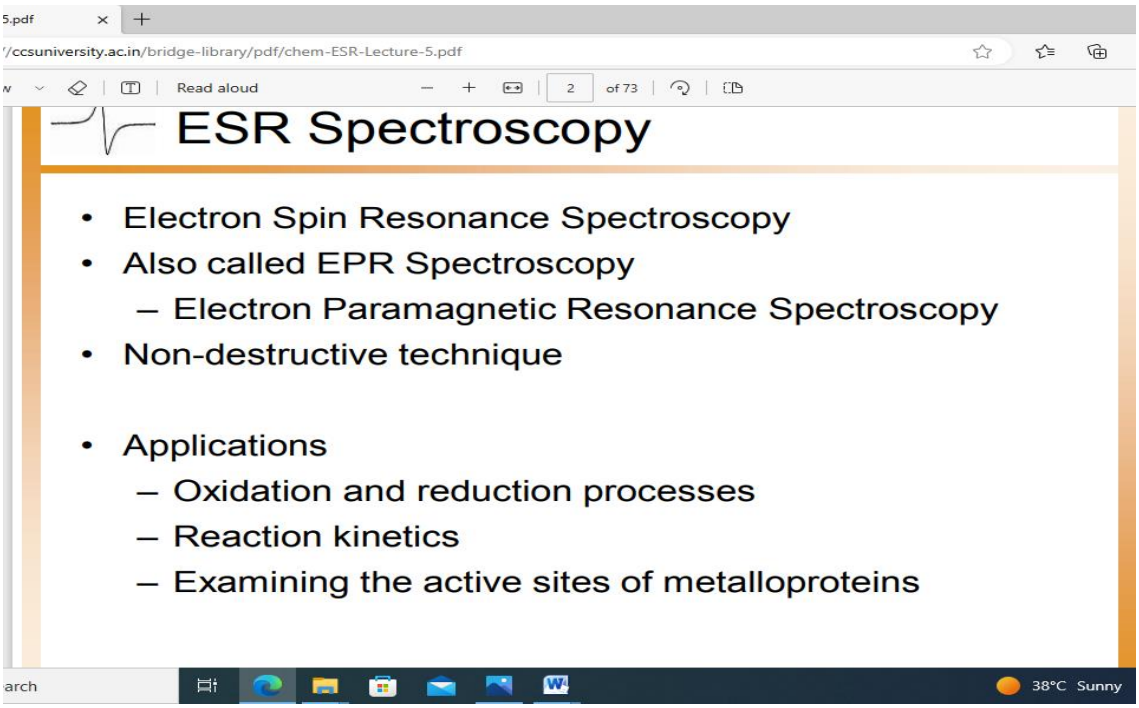
ESR SPECTROSCOPY PRINCIPLE-APPLICATIONS

What is a basic Principle of Electron Spin Resonance Spectroscopy? ESR spectroscopy is based on the absorption of microwave radiation by an unpaired electron when exposed to a strong magnetic field. The electronic energy levels of the atom or molecules will split into different levels.

Notes on lecture

The ESR spectrum of a spin adduct can be used for quantitative analysis of free radicals by comparing the peak area with those obtained from stable radicals. ESR spin-trapping can be used for kinetic analyses and determine the formation and elimination velocities of a free radical.
ESR is determined by the interaction between factors that promote (fibrinogen) and factors that resist (negative charge of RBC) sedimentation. . Plasma proteins, especially fibrinogen, adhere to the red cell membranes and neutralize the surface negative charge promoting cell adherence and rouleaux formation

ESR chemical shifts usually are measured in terms of "g factors", which, like NMR δ values, are field-independent. The resonance frequency is given by $\nu=g\mu_0 H_0/h$, in which μ_0 is the magnetic moment of the electron.



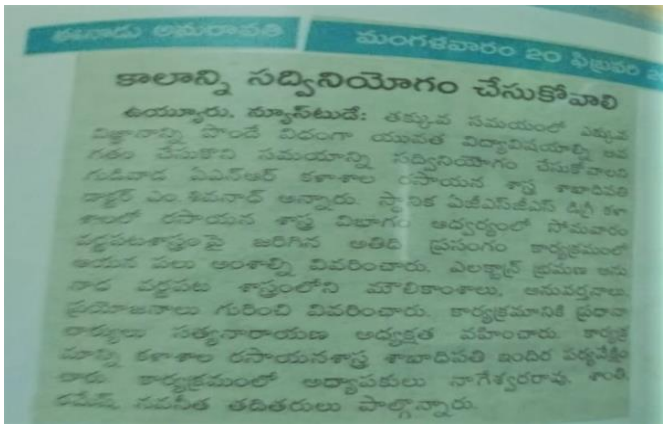
Outcome

Lecture was received by all third B.Sc Students Impressively. And they get so much knowledge on ESR Spectroscopy.

- PHOTOS

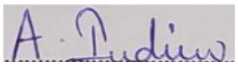
Interaction with students

- News paper cuttings



కాలాన్ని సద్వినియోగం చేసుకోవాలి

ఉయ్యూరు, న్యూస్‌టుడే: తక్కువ సమయంలో ఎక్కువ విజ్ఞానాన్ని పొందే విధంగా యువత విద్యావిషయాల్ని ఎన్నుకొని సమయాన్ని సద్వినియోగం చేసుకోవాలని గుడివాడ ఏఎస్‌ఆర్ కళాశాల రసాయన శాస్త్ర శాఖాధిపతి డాక్టర్ ఎం.శివనాథ్ అన్నారు. స్థానిక వీజీఎస్‌డీవీఎస్ డిగ్రీ కళాశాలలో రసాయన శాస్త్ర విభాగం ఆధ్వర్యంలో సోమవారం వర్ణపటశాస్త్రంపై జరిగిన అతిథి ప్రసంగం కార్యక్రమంలో అయన పలు అంశాల్ని వివరించారు. ఎలక్ట్రాన్ క్రమణ సిద్ధాంత వర్ణపట శాస్త్రంలోని మౌలికాంశాలు, అనువర్తనాలు ప్రయోజనాలు గురించి వివరించారు. కార్యక్రమానికి ప్రధానాచార్యులు సత్యనారాయణ అధ్యక్షత వహించారు. కార్యక్రమాన్ని కళాశాల రసాయనశాస్త్ర శాఖాధిపతి బందిర వర్ధనీధీరు. కార్యక్రమంలో అధ్యాపకులు నాగేశ్వరరావు, గుణరమేష్, సమీత తదితరులు పాల్గొన్నారు.



Signature of the HOD