

A.G. & S.G. Siddhartha Degree College of Arts & Science
Vuyyuru-521165, Krishna District, Andhra Pradesh

(Managed by: Siddhartha Academy of General & Technical Education,
Vijayawada-10)

An Autonomous College in the Jurisdiction of Krishna University
Accredited by NAAC with “A” Grade
ISO 9001:2015 Certified Institution



Department of Chemistry

Guest Lecture -2023-2024

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Name of the Event : Guest Lecture

Topic: **Electro chemistry**

Date Conducted: 10-08-2023

Resource Person : M.Nageswara rao

Bavishya Educational Institutions Director,
Vijayavada.

Report on the Guest Lecture:

M.Nageswara rao, Bavishya Educational Institutions Director, Vijayavada. Said that

Electrochemistry is that branch of chemistry which deals with the study of production of electricity from energy released during spontaneous chemical reactions and the use of electrical energy to bring about non-spontaneous chemical transformations. Importance of Electrochemistry 1. Production of metals like Na, Mg. Ca and Al. 2. Electroplating. 3. Purification of metals. 4. Batteries and cells used in various instruments. Conductors Substances that allow electric current to pass through them are known as conductors. Metallic Conductors or Electronic Conductors Substances which allow the electric current to pass through them by the movement of electrons are called metallic conductors, e.g., metals. Electrolytic Conductors or Electrolytes Substances which allow the passage of electricity through their fused state or aqueous solution and undergo chemical decomposition are called electrolytic conductors, e.g., aqueous solution of acids. bases and salts. Electrolytes are of two types: 1. Strong electrolytes

The electrolytes that completely dissociate or ionise into ions are called strong electrolytes. e.g., HCl, NaOH, K₂SO₄. 2. Weak electrolytes The electrolytes that dissociate partially ($\alpha < 1$) are called weak electrolytes, e.g., CH₃COOH, H₂CO₃, NH₄OH, H₂S, etc.

Faraday's Laws of Electrolysis 1. First law The amount of the substance deposited or liberated at cathode directly proportional to the quantity of electricity passed through electrolyte. $W \propto I \times t$
 $I \times t \times Z = Q \times Z$ • I current in amp, t = time in sec, • Q = quantity of charge (coulomb) • Z is a constant known as electrochemical equivalent. When I = 1 amp, t = 1 sec then Q = 1 coulomb, then $w = Z$. Thus, electrochemical equivalent 'Z' the amount of the substance deposited or liberated by passing 1A current for 1 sec (i.e.. 1 coulomb, $I \times t = Q$



Guest Lecture by M.Nageswara rao, Bavishya Educational Institutions Director,



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Outcome

Chemistry Major Students are Feeling Very Happy. For this Lecture. Totally 62 students are attended this Lecture.

A handwritten signature in black ink on a white background. The signature reads "H. Gopin Prasad."

Signature of the HOD