GOVERNMENT DEGREE COLLEGE

MUMMIDIVARAM

DEPARTMENT OF CHEMISTRY

SEMINARS:: 2024-2025

I B.Sc. (Chemistry)

I SEMESTER

SEMINAR TOPICS GIVEN TO THE STUDENTS

S.No.	Name of the Student	Date	Reg. No.	Topic	Remarks
1.	K.Sai Ganga Pravallika	16-12-2024	241517169028	Importance of Organic chemistry	
2.	B.Bhargavi Lakshmi	16-12-2024	241517169021	Applications of chemistry in Industry &Technology	
3.	G.Bhavana vijaya sri	16-12-2024	241517169025	Proteins	
4.	B.Mahalakshmi	17-12-2024	241517169023	Vitamins	
5.	M.Satya sri	17-12-2024	241517169030	Fats	
6.	G.Yogendra	17-12-2024	241517169026	Carbohydrates	
7.	B.Murali Ramkumar	17-12-2024	241517169022	Quantum numbers	
8.	P.Venkata Naveen	21-12-2024	241517169031	S,P,d,f - Blocks	
9.	G.Prasanth Kumar	21-12-2024	241517169027	Polymers	
10.	D.Naga Sanjay	21-12-2024	241517169024	Bohr’s Model of atom	
11.	M.Chaitanya	21-12-2024	241517169029	Vitamins	


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Mummidivaram - Dr.B.R.Ambedkar Konaseema District.
DEPARTMENT OF
CHEMISTRY

SEMINAR

GOVERNMENT DEGREE COLLEGE
- MUMMIDIVARAM

DEPARTMENT OF CHEMISTRY

TOPIC : APPLICATION OF CHEMISTRY IN INDUSTRY AND TECHNOLOGY

NAME : B. Bhargavi lakshmi

GROUP : I BSC [chemistry]

ROLL NO : 02

B. parvi

APPLICATIONS OF CHEMISTRY IN INDUSTRY AND TECHNOLOGY

Industrial chemistry has assisted in the discovery and development of new and improved synthetic fibres, paints, adh -esives, drugs, cometics, electric components, lubricants and thousands of their products, and improved process for oil refining and petrochemical processing that saves energy and reduces pollution.

Industrial chemistry is the application of chemical principle and techniques to solve problems in industries, it plays a crucial role in various sectors from developing new products to producing everyday consumer goods and is essential to ensuring the safety and quality of products and processes in industries.

chemical manufacturing :-

operations in the chemical manufacturing sector include basic chemicals facilities produce large quantities of chemicals that are often used to make other chemical or produc -ts. Basic chemicals include chemical petro chemicals, indus -trial gases and synthetic dyes and pigments.

Resins and synthetic rubber, and fibers and filaments facilities in the other chemical products subsector make chemi -cals for a wide variety of applications. These include chemical used in photography, explosives, inks and toners and tran sportation equipement like antifreeze or brake fluid.

chemical manufacturing facilities by subsector 2022 :-

Basic chemicals = 33-1.
Pharmaceuticals = 5-1.
Pesticides and fertilizers = 7-1.
cleaning and personal care products = 9-1.
Resins and synthetic rubbers = 12-1.
coating and adhesives = 15-1.
other chemical products = 20-1.

Pharmaceuticals and drug discovery :-

The pharmaceutical industry produces synthetic chemicals used for human medication or veterinary applications applied in order to cure, prevent (or) lessening the symptoms of illness.

It is estimated that approximately 3000 different substances are used as pharmaceutical ingredients, including, antibiotics, pain killers, antidepressants adrenergic recept -or blockers, antidiabetics impotence drugs ... etc ... However the most common ones such as the the analgesic paracetamol or the psychiatric drug carbamazephine have an annual production within the order of 100-1000 tons in Europe.

Analytical chemistry is an important part of the phar maceutical industry it is used to gain knowledge about a drugs composition, purity and stability. This helps ensure that a drug is safe for public consumption and meets all necessary quality standards.

Drug discovery :- Finding new drug usually consists of give main stages

1. A Prediscovery stage in which basic research is performed to try to understand the mechanisms leading to diseases and and propose possible targets (Proteins)
2. The drug discovery stage, during which scientists search for molecules or other therapeutic strategies that interfe re or cure the investigated disease or at least decrease the symptoms.
3. The preclinical development stage that focuses on clarifying the mode of action of the drug candidates investigates potential toxicity, validates efficacy on various in vitro and in vivo models and starts evaluate formulation.
4. The clinical stage that investigates the drug candidate in humans.
5. The reviewing, approval and post-market monitoring stage during which the drug is approved or not.

Materials Science :-

materials science and engineering (MSE) applies the tools of basic and applied science and engineering to the manufac turing and application of materials science and devices. every technology from the first wheel of the past to the 3D-printed heart of the future depends on materials development and innovation.

The four basic elements of materials science are atomic structure and bonding, crystal and amorphous structures in materials, solidification and crystalline imperfections and thermally activated processes and diffusion in solids.

materials can be classified into four main groups.

1) metals 2) polymeers 3) ceramics 4) composites.

Food and beverage industry:-

it's one of the oldest industries on the planet but still full of innovation. from neco products to higher volume lower cost production techniques the industry is always looking foornew ways to produce the food, consumeers want at the best possible price and vital equipment is theere every step of the way. from simple ovens and conveyoor beats to complex bottling and packaging machines. The food and beverage industry depends on equipment foor industrial scale food production.

The food and beverage industry includes all the companies involved in tranforming raw agricultural goo ds into consumeer food products. the overall industry supply chain includes food processing packaging and distribution.

Food and beverage service objectives:-

* Physilogical - the need to taste different varieties of food.
* Economical - the need to get F&B seavices at the invested cost,
* social - the need to find friendly atmosphere.
* Psychological - the need to find elevate self-esteem.

Food and beverage are any consumable products suchas fruits, vegetables, processed foods and alcoholic beverages, that are meantfoor human consumption The hospitality industry commonaly use this team to refeer to the products and seavices offeered in hoteds, restawants, cafes and otheer food establishments.

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DEPARTMENT OF CHEMISTRY

SEMINARS:: 2024-2025

II B.Sc.(Chemistry)

III SEMESTER

SEMINAR TOPICS GIVEN TO THE STUDENTS

S.No.	Name of the Student	Date	Reg. No.	Topic	Remarks
1.	M.Neena Gayathri	12-11-2024	231517169015	Nitration of Benzene	
2.	M.Vanitha	12-11-2024	231517169016	Markonikov's Rule	
3.	K.Hema Sri	12-11-2024	230047169013	Thermo & Photo chemical reactions	
4.	P.Valibaba	13-11-2024	231517169017	Friedelcraft alkylation and Friedel craft acylation reaction	
5.	K.Aditya	13-11-2024	231517169014	Conformations of Butane	
6.	S.Vinaya Varma	13-11-2024	231517169018	Acidic character of Alkynes	

	

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MUMMIDIVARAM

DEPARTMENT OF CHEMISTRY

SEMINARS:: 2024-2025

III B.Sc. (BZC)

V SEMESTER

SEMINAR TOPICS GIVEN TO THE STUDENTS

S.No.	Name of the Student	Date	Reg. No.	Topic	Remarks
1.	B. Uma Sai	28-09-2024	221517110018	Lambert's Law	
2.	Ch.Sruthi	26-09-2024	221517110019	Classification of Chromatography	
3.	Ch.Y. P. Sowjanya	05-10-2024	221517110020	Thin Layer Chromatography	
4.	G. Hemasri	30-09-2024	221517110021	Effect of Polarity of solvent on R_f value	
5.	J. Surendra Reddy	05-10-2024	221517110022	Thin Layer Chromatography	
6.	K.Anitha	30-09-2024	221517110023	Types of Atomizers	
7.	K. Lakshmi	03-10-2024	221517110024	Applications of Beer-Lambert's Law	
8.	K. Priyanka	03-10-2024	221517110025	Terms involved in chromatography	
9.	L.Anusha	26-09-2024	221517110026	General applications of chromatography	
10.	M.S.L.S Sudha Rani	28-09-2024	221517110027	Spectro photometer	
11.	M. Divya Jyothi	04-10-2024	221517110028	High pressure Liquid Chromatography	
12.	M.Mani Kumari	03-10-2024	221517110029	Beer - Lambert's Law	
13.	N. Raja Sri	26-09-2024	221517110030	Thin Layer Chromatography	
14.	P.Sravani	26-09-2024	221517110031	High pressure liquid chromatography	
15.	R.B.D.V. Prasad	30-09-2024	221517110032	Determination of Lead by using spectro photometer	
16.	S. Swapna	01-11-2024	221517110033	Atomic Absorption Spectroscopy	
17.	S. Poojitha	30-09-2024	221517110034	Effect of polarity of a mixture on R_f value	


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MUMMIDIVARAM

CHEMISTRY - SEMINAR

PAPER: 7B : ANALYTICAL METHODS IN CHEMISTRY

TOPIC : SPECTROPHOTOMETRY

Name:- M.S.L.S. Sudha Rani

Class: III Bsc [CBZ]

Rollno: 11

Regdno:- 2215171100 27

04/11/24

* Spectrophotometry:-

→ The process of Determination of amount of radiation transmitted or absorbed when a substance is irradiated with light radiation of various wavelength is called spectrophotometry.

* Spectrophotometer:-

→ The device which is used to determine the amount of radiation transmitted or absorbed when a substance is irradiated with light radiation of various wavelengths is called spectrophotometer.

→ The device is used to determine the concentration of the solution basing on the Beer-Lambert's law

* Instrumentation:-

* The essential part of spectrophotometer:-

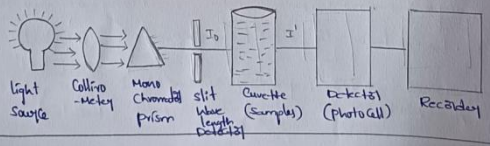
→ Source of radiant energy

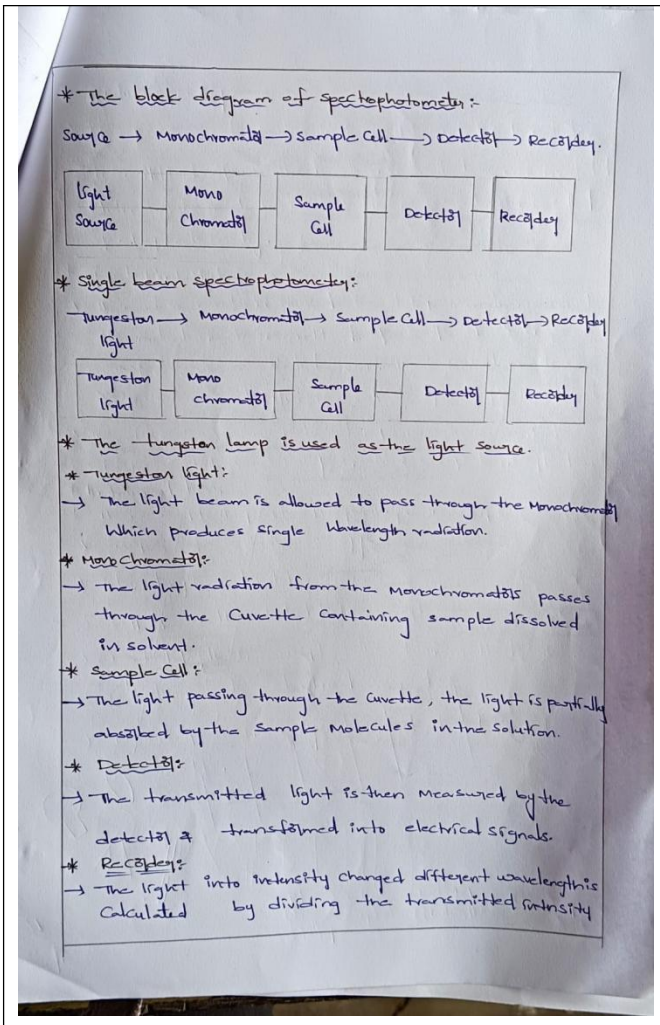
→ Wave length selector

→ Cell or Cuvette to hold the sample

→ Detector which converts the transmitted light radiation into electrical signals

→ Recorder which analyses the electrical signals and give results.





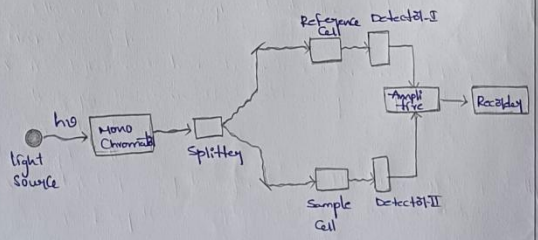
* The block diagram of spectrophotometer:

Source → Monochromator → Sample Cell → Detector → Recorder.

* Single beam spectrophotometer:

Tungesten light → Monochromator → Sample Cell → Detector → Recorder

* The tungsten lamp is used as the light source.
* Tungesten light:
→ The light beam is allowed to pass through the Monochromator which produces single wavelength radiation.
* Monochromator:
→ The light radiation from the Monochromators passes through the Cuvette containing sample dissolved in solvent.
* Sample Cell:
→ The light passing through the cuvette, the light is partially absorbed by the sample Molecules in the solution.
* Detector:
→ The transmitted light is then measured by the detector & transformed into electrical signals.
* Recorder:
→ The light into intensity changed different wavelengths Calculated by dividing the transmitted intensity of the sample solution by the corresponding values of the blank.
→ This finally stored by recorder.
* Double beam spectrophotometer:
→ In a double beam spectrophotometer, the light beam is split into a reference and a sample beam. The light beam of the lamp is split into two beams of equal intensities (each beam pass through a different Cuvette).
→ The reference Cuvette. which is filled with solvent only.
→ Whereas second Cuvette Contains the sample solution.
→ The intensities of both beams are Measured simultaneously by two detectors.



Double beam spectrophotometer

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