CHEMISTRY IN EVERYDAY LIFE

Semester	Subject Code	Category	Lecture Hours		Theory Hours		Practical Hours		Credits
			Per week	Per sem.	Per week	Per sem.	Per week	Per sem.	
IV	21NCH4A	Non-Major-II	2	30	2	30	-	-	2

COURSE OBJECTIVES:

The students will be able to

- Learn about the role of Chemistry in Everyday life such as Polymers and Cosmetics, Nutrients and Adulterants, Organic pharmaceutical aids and Fertilizers, Explosives, Sugar industry and importance of Fuels.

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	Gain knowledge about the uses of polymers and cosmetics used in our daily life.	K4
CO2	Learn about food and nutrition, and adulterants present in the food items.	K4
CO3	Understand the colouring agents present in the food products and the applications of fertilizers.	K3
CO4	Know the theory behind explosives and sugar industry.	K2
CO5	Understand the elementary idea of fuel gases, composition and their applications.	K2

*CO – Course Outcomes

Knowledge Level: K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze.

MAPPING WITH PROGRAMME OUTCOMES:

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	S	M	S	S	S
CO2	S	S	S	M	S	S
CO3	S	S	M	S	M	S
CO4	S	M	M	S	S	S
CO5	S	S	M	S	S	S

(S – Strong; M – Medium; L – Low)

UNIT-I: Polymers and Cosmetics **6 Hours**

1.1 Polymers – Polymerisation – Monomers – Types of Polymerisations – Examples – Polyethylene, Poly Vinyl Chloride (PVC), Natural rubber, Synthetic rubber, Bakelite, Nylon, Starch and Cellulose – Applications.

1.2 Cosmetics – Talcum powder, Tooth pastes, Shampoos, Nail polish, Perfumes, Soaps and Detergents – General formulations and preparation – Possible hazards of cosmetics use.

UNIT-II: Nutrition and Adulterants **6 Hours**

2.1 Food and Nutrition – Carbohydrates, Proteins, Fats, Minerals (Na, K, Fe) and Vitamins – Definitions, sources and their physiological importance – Balanced diet.

2.2 Adulterants in Milk, Oil, Coffee Powder, Tea, Chilli Powder, Pepper and Turmeric Powder – Identification – Food Additives – Definition – Artificial sweeteners.

UNIT-III: Colouring Agents and Fertilizers **6 Hours**

3.1. Food colours – Restricted use – Spurious colours – Taste enhancers – MSG – Vinegar – Chemicals used in food production.

3.2. Fertilizers used as natural sources – Fertilizers – Urea, NPK Fertilizers and Superphosphates – Need, uses and hazards.

UNIT-IV: Explosives and Sugar Industry **6 Hours**

4.1 Explosives– Primary, low and high explosives – Dynamite, Nitroglycerine, Nitrocellulose, TNT, Picric acid and Gun powder – Uses.

4.2 Sugar Industry – Sugar Industries in India – Sugarcane – Extraction of juice – Concentration – Separation of crystals – Preparation of glucose from cane sugar – Uses of cane sugar and glucose.

UNIT-V: Fuel Gases **6 Hours**

5.1 Fuels – Gaseous fuels – Calorific value – sources – Formation of water gas, semiwater gas and carbureted-water gas – Constituents and uses.

5.2 Producer gas, oil gas, natural gas, LPG and biogas (manufacture not required) – Constituents and uses.

TEXT BOOKS:

S. No.	Authors	Title	Publishers	Year of publication
1.	K. Bagavathi Sundari	Applied Chemistry	MJP publishers	2006
2.	B. K. Sharma	Industrial Chemistry	Goel Publishing House, Meerut	1984

REFERENCE BOOKS:

S. No.	Authors	Title	Publishers	Year of publication
1.	A. K. De	Environmental Chemistry	New Age International Publishers	1983
2.	B. Srilakshmi	Food Science-III Edition	New Age International Publishers	2005
3.	Lillian Meyer	Food Chemistry	CBS publishers and Distributors	2004
4.	Jayashree Ghosh	Fundamental Concepts of Applied Chemistry	S. Chand and Company Ltd.	2001

TEACHING METHODOLOGY:

- Power Point presentations
- Assignments
- Animated videos
- Chalk and Board
- Group discussion

SYLLABUS DESIGNER:

- Dr. R. Arunadevi, Assistant Professor of Chemistry