Dr. A.P.J. ABDUL KALAM UNIVERSITY, INDORE

Course: B.Sc **Semester: I** **Session: 2022-23**
Subject: Chemistry (Chemistry in Everyday Life) **Subject Code: ELCH103T**

1	**Course Code**	**Chemistry in Everyday Life**
2	**Course Title**	**Elective**
3	**Course Type (Core Course/Elective/Generic Elective/Vocational/.....)**	To study this course, a student must have had the subject **science/arts /commerce** in class +2 or equivalent ..... **This course can be opted as an elective by the students of following subjects: Open for all**
4	**Pre-requisite (if any)**	By the end of this course students are expected to- 1. Learn about the chemistry of ancient India, ancient construction materials and discoveries. 2. Gain information about acids, bases and salts involved in our day to day life. 3. Have an idea of food adulteration, its harmful effects, and methods to detect adulteration and the important constituents of our food. 4. Student will be familiar with the chemical nomenclature of the commonly used materials in daily life including toiletries, kitchen and beverages. 5. Have an Elementary idea of disinfectants, pesticides and cleaners.
5	**Course Learning outcomes (CLO)**	
6	**Credit Value**	4
7	**Total Marks**	Min. Passing Marks:33

Part B- Content of the Course

Total No. of Lectures-Tutorials-Practical (in hours per week):
L-T-P:

Unit	Topics	No. of Lectures
I	**Ancient Chemistry-** Chemistry in Ancient India • Alchemy- Construction material in ancient times like Pottery, Bricks, Cement, Minerals. • Discovery and Uses of Glass, cosmetics & perfumes, paper & ink. • Metal extraction in ancient time, fibre cloth and dying chemistry in ancient times. **Basic introduction of chemistry**: Elements (upto atomic number 36), atoms, molecules and compounds. **Keywords/Tags:** *Ancient Chemistry, Alchemy, Glass, Metal extraction, Atoms, molecules.*	12
II	**Acids, Bases and Salts in Daily Life** -Definition of acids, bases and neutral substances, pH scale. Sources and uses of- • Acids- hydrochloric acid, acetic acid(vinegar), ascorbic acid, carbonic acid, sulfuric acid, tartaric acid, citric acid. • Bases- sodium hydroxide, magnesium hydroxide, calcium hydroxide. ammonia. • Salts- sodium fluoride, sodium chloride, sodium carbonate, sodium bicarbonate, copper sulphate, alums, calcium carbonate, ammonium chloride. **Keywords/Tags:** *Acids, Bases, Salts, Neutral Substances, pH*	12
III	**Major Components of our Food-** Basic idea of vitamins, minerals, fats, carbohydrates, proteins and fibers, their function and sources. **Functions and importance**: Vitamin B complex, antioxidants, micronutrients like iron, zinc, calcium	12

Phenyls.

Part C-Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

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1. COX H.E.: ANALYSIS OF FOODS 13.
2. .COX H.E. AND PEARSON CHEMICAL ANALYSIS OF FOODS.
3. SHAKUNTALA MANY N. AND SWAMY S. FOODS: FACTS AND PRINCIPLES. 4TH ED. NEW AGE INTERNATIONAL (1998)
4. JAIN AND JAIN, ENGINEERING CHEMISTRY, DHANPATRAI PUBLISHING COMPANY
5. Garforth, F. (1986). Chemistry through the looking glass. In P. E. Childs (ed.),
6. Limerick, Everyday Chemistry (pp.4-45). Thomond College.
7. Bailin, S. (2002). Critical thinking and science education. Science & Education, 11, 361-375.
8. Childs, P. E. (1986). What is everyday chemistry? In P. E. Childs (ed.), Everyday chemistry. Limerick: Thomond College.
9. Chemical Education 60, 1031
10. Hatfield: ASE (1985). Education through science
11. Ray Prafulla Chandra History of Chemistry in ancient and Medieval India: Incorporating the History of Hindu Chemistry 1 January 2004 Chowkhambha Sanskrit serires office

MOOCs, NPTEL, SWAYAM, HE E-Contents-
https://tamilandvedas.com/2019/11/04/rare-chemistry-alchemy-medicine-books-of-ancient-india-post-no-7178/
https://nptel.ac.in/content/storage2/courses/103107082/module1/lecture1/lecture1.pdf
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