Govt. T. R. S. (Autonomous) College Rewa (M.P.)
(Affiliated to A.P.S. University Rewa)
Department of Chemistry
Syllabus for B.Sc. (Hons.) Chemistry on CBCS
Session 2023-24

Part A - Introduction				
Program-Diploma		**Class- ALL**	**Semester III**	**Session: 2023-24**
Subject : Chemistry (Honours)				
1	**Course code**	**CHGT-03 A**		
2	**Course title**	**Chemistry In Everyday Life**		
3	**Course type**	**Generic Elective (GE)**		
4	**Pre-requisite (if any)**	**This course is Open for all**		
5	**Course Objective**	Elements in periodic table; physical and chemical characteristics, periodicity. To predict the atomic structure, chemical bonding, and molecular geometry based on accepted models. To understand atomic theory of matter, composition of atom. Identity of given element, relative size, charges of proton, neutron and electrons, and their assembly to form different atoms. Defining isotopes, isobar and isotone.		
6	**Course Learning Outcomes (CLO)**	**By the end of the this paper Students will be able to** • Learn about the chemistry of ancient India, ancient construction materials and discoveries. • Gain information about acids, bases and salts involved in our day to day life. • Have an idea of food adulteration, its harmful effects, and methods to detect adulteration and the important constituents of our food. • Student will be familiar with the chemical nomenclature of the commonly used materials in daily life including toiletries, kitchen and beverages. • Have an elementary idea of disinfectants, pesticides and cleaners.		
7	**Credit Value**	**4**		
8	**Total Marks**	**Maximum Marks:** **University Exam (UE)- 60, CCE-40**		**Min. Passing Marks: 33**

Part B – Content of the Course

Total No. of Lectures-Tutorials-Practical (02 hours per week):
L-T-P: 45-0-0 (Total Hours)

Unit	Topic	No. of Lectures
1	**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, molecule and compounds.	**06**

2	**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.	**12**
3	**Major Components of our food-** Basic idea of vitamins, minerals, fats, carbohydrates, proteins and fibers, their function sources. **Functions and importance:** Vitamin B complex, antioxidants, micronutrients like iron, zinc,calcium. **Food Adulteration-** definition, types, harmful effects • Common adulterants and their detection in milk,ghee, mustard oil, sugar, salt, tea, chilli powder, black pepper, turmeric powder, honey. • Harmful effects of food additives- saccharine, monosodium glutamate (Ajinomoto), sulphur dioxide, preservatives.	**12**

Part C – Learning Resource

Text Books, Reference Books, Other resources

Suggested Reading:

Text & Reference Books:

- COX H.E.: ANALYSIS OF FOODS 13
- COX H.E. AND PEARSON CHEMICAL ANALYSIS OF FOODS.
- SHAKUNTALA MANY N. AND SWAMY S. FOODS: FACTS AND PRINCIPLES.4TH ED. NEW AGE INTERNATIONAL(1998).
- JAIN AND JAIN, ENGINEERRING CHEMISTRY, DHANPATRAI PUBLISHING COMPANY.

Suggested equivalent online courses:
(all URLs accessed in May 2021)

MOOCs

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Keywords:
Alchemy, Glass, metal extraction, Acids, Bases, Salts, pH, vitamins, minerals

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<table>
<tr><th colspan="5">Part A - Introduction</th></tr>
<tr><td colspan="2">Program-CERTIFICATE</td><td>Class- UG</td><td>Semester- III</td><td>Session: 2023-24</td></tr>
<tr><td colspan="5">Subject : Chemistry (Honours)</td></tr>
<tr><td>1</td><td>Course code</td><td colspan="3">CHGP 03 A</td></tr>
<tr><td>2</td><td>Course title</td><td colspan="3">Chemistry In Everyday Life (Practical)</td></tr>
<tr><td>3</td><td>Course type</td><td colspan="3">Generic Elective (GE)</td></tr>
<tr><td>4</td><td>Pre-requisite (if any)</td><td colspan="3">This course is Open for all</td></tr>
<tr><td>5</td><td>Course Objective</td><td colspan="3">To aware about the various easy experiments of chemistry.</td></tr>
<tr><td>6</td><td>Course Learnin g Outcom es(CLO)</td><td colspan="3">By the end of the this paper Students will be able to:
Electronic configuration of various elements in periodic table
Predicting structure of molecules
How hydrogen bonding, metallic bonding is important in common materials’ scientific applications to material fabrication</td></tr>
<tr><td>7</td><td>Credit Value</td><td colspan="3">2</td></tr>
<tr><td>8</td><td>Total Marks</td><td colspan="2">Maximum Marks: Total - 100
University Exam (UE)- 60, CCE-40</td><td>Min. Passing Marks: 33</td></tr>
<tr><th colspan="5">Part B – Content of the Course</th></tr>
<tr><td colspan="5">Total No. of Lectures-Tutorials-Practical (04 hours per week):
L-T-P: 15-0-0 (Total hours)</td></tr>
<tr><td>Unit</td><td colspan="3">Topic</td><td>No. of Lectures</td></tr>
<tr><td>1</td><td colspan="3">1. Chemical analysis of milk product
Testing of butter
Determination of moisture
Determination of fat
Titrable acidity
Testing of paneer</td><td>12</td></tr>
</table>

	➢ Determination of moisture ➢ Determination of fat ➢ Determination of acidity • Testing of ghee ➢ Determination of moisture ➢ Free fatty acids percent as olic acid ➢ RM test 2.	

Part C – Learning Resource
Text Books, Reference Books, Other Resources
Suggested Reading: **Text & Reference Books**: 1. A.I. Vogel: Qualitative Inorganic Analysis, Prentice Hall, 7th Edn. 2. A.I. Vogel: Quantitative Chemical Analysis, Prentice Hall, 6th Edn. 3. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., Textbook of Practical Organic Chemistry, Prentice-Hall, 5th edition, 1996. 4. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry Orient-Longman, 1960. **Suggested equivalent online courses:** **(all URLs accessed in May 2021)** MOOCs •