



**Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore**  
**Shri Vaishnav Institute of Science**  
**Department of Chemistry**  
**Generic Elective Courses**  
**Choice Based Credit System (CBCS)**

COURSE CODE	CATEGORY	COURSE NAME	L	T	P	CREDITS	TEACHING & EVALUATION SCHEME				
							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
GUCH101	UG	Commercial Applications of Chemistry	4	0	0	4	60	20	20	00	00

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit; Q/A - Quiz / Assignment / Attendance, (MST) Mid Sem Test.

\*Teacher Assessment shall be based on following components: Quiz / Assignment / Project/ Participation in class (Given that no component shall be exceed 10 Marks)

**Course Objectives:**

1. This course will provide the knowledge of different types of Chemicals, preparation and its commercial applications.
2. To comprehend industrial chemistry principles and deliver knowledge in a rational manner while putting a focus on practical applications.
3. To transfer knowledge and abilities in applied chemistry so that it can be utilised in related fields.
4. To expand knowledge, motivate future entrepreneurs, and familiarise the students with broad concepts.
5. To understand Basics of safety and Utility of Chemicals.


**Course Outcomes:**

After completion of this course the students are expected to be able to demonstrate following knowledge, skills, and attitudes. The student will demonstrate capability of

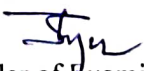
1. Students will be able to recall the concepts of Applied chemistry and its significance.
2. Students will develop understanding about the commercial applications of Chemicals and their manufacturing process.
3. Students will gain basic knowledge of Industrial Organic and Inorganic Chemistry.
4. Students be able to discuss the challenges faced in each step of Industrial Chemistry.
5. The graduates can pursue their careers in different types of Chemical industries

**UNIT I- Basics of Business**

Key business concepts: Business plans, market need, project management and routes to market. Chemistry in Industry: Current challenges and opportunities for the chemistry-using industries, role of chemistry in India and global economies.

  
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 Physical Sciences

  
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The development of Indian chemical industries through time.

**UNIT II- Cosmetics**

A general study includes preparation and uses of the following: Hair dye, hair spray, shampoo, suntan lotions, face powder, lipsticks, talcum powder, nail enamel, creams (cold, vanishing, and shaving creams), antiperspirants and artificial flavors.

**UNIT III- Perfumes**

Essential oils and their importance in perfume industries with reference to Eugenol, Geraniol, sandalwood oil, eucalyptus, rose oil, 2-phenyl ethyl alcohol, Jasmone, Civetone, Muscone.

**UNIT IV- Paints and Pigments**

Paint: Definition and classification (based on their application), constituents of a paint, requisites of a good paint


Pigments: Definition, characteristics and uses of following pigments White lead, Lithopone, Ultramarine blue, Red lead, Chrome green, Guigwet's Green.


**UNIT V- Drugs and Pharmaceuticals**

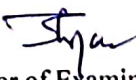
Drug discovery, design, and development. Drugs of the following classes: analgesics agents, antipyretic agents, anti-inflammatory agents, antibiotics, antibacterial and antifungal agents and antiviral agents. Central Nervous System agents (CNS), and Cardiovascular agents.

**TEXTBOOK AND READING LIST**

1. John W. Hill, J. W. McCreary, D.K. Kolb, Chemistry for changing times, 16<sup>th</sup> Ed., New York: Pearson. (2021)
2. Harkishan Singh, V.K. Kapoor: Medicinal & Pharmaceutical Chemistry, Vallabh Prakashan, New Delhi. (2011)
3. William O. Foye, Thomas L, Lemke, David A. William: Principles of Medicinal Chemistry, 7<sup>th</sup> Ed., B.I. Waverly Pvt. Ltd. New Delhi. (2012)
4. E. Stocchi: Industrial Chemistry, Vol -I, Ellis Horwood Ltd. UK. (1990)
5. P.C. Jain, M. Jain: Engineering Chemistry, 8<sup>th</sup> Ed., Dhanpat Rai & Sons, Delhi. (2018)
6. Sharma, B.K. & Gaur, H. Industrial Chemistry, Goel Publishing House, Meerut (1996).
7. Frank Hall Thorp: Outlines of Industrial Chemistry, The Macmillan Co. London. UK. (2013)

  
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