

Course Title: Chemistry - <b>SEC: CHEMISTRY IN VEDIC LITERATURE AND AYURVEDIC DRUGS</b> <i>w.e.f. the session 2025-26 and onwards</i>	
Class: B.Sc. Pt.-IV/ Semester-VIII	Course code: BCH-S801
Lectures:30	Credits:02
MM : 70	Exam.Hrs.: 03

NOTE: The question paper shall consist of Two sections (Sec.-A and Sec.-B). Sec.-A shall contain 10 short answer (about 150 words) type questions of SIX marks each and student shall be required to attempt any five questions. Sec.-B shall contain 08 descriptive type questions of TEN marks each and student shall be required to attempt any four questions. Both sections shall have questions from the entire syllabus. The previous year paper/model paper can be used as a guideline and the following syllabus should be strictly followed while setting the question paper.

### Course Contents:

#### (a) Chemistry in vedic literature and Indian philosophy: (Lectures: 06)

Kanad's atomic theory, Concept of Parmanu, Formation of molecules, Parimandal, Comparison with Dalton's atomic theory and models of Thomson, Rutherford and Bohr. First and Second law of thermodynamics in daily life. Entropy in life and concept of Pralaya. Dhananjay Vs Concept of Radioactivity – Life after death. Atomic Spectrum Vs Concept of Kundalini.

(b) **Pharmacodynamics of Ayurvedic drugs:** Brief description of Rasa, Guna, Vipaka, Virya, and Prabhava.

(c) **Classification and Constituents of Crude Drugs:** Brief and introductory idea of drug constituents and their Chemical and Pharmacological classification. (Lectures: 06)

(d) **Plant Analysis:** Methods of extraction, Isolation separation and identification of various constituents (Introductory description). Isolation of Caffeine from Tea leaves, Isolation of Piperine from black piper and Isolation of curcumin from turmeric. (Lectures: 06)

(e) **Analysis of Ayurvedic Drugs:** General idea of analysis of active constituents and standardization of Ayurvedic drugs, (Lectures: 06)

(f) **Analysis of Modern drugs:** Assay and identification of Aspirin, Ascorbic acid and Paracetamol. (Lectures: 06)

### References

1. Alchemy and Metallic Medicines in Ayurveda by: Vaidya Bhagwan Das
2. History of Hindu Chemistry by: P. C. Ray
3. Ayurvediya Rasa Shastra by: Siddhinandan Misra
4. Ayurvediya Rasa Shastra by: Dr. Chandra Bhushan Jha
5. Indian Alchemy by: Dr. S. Mahdihassan
6. Indian Pharmacopoea 2010
7. Text Book of Pharmacognosy by: Mahammed Ali
8. Rasajalnidhi Vol. I - III
9. Ancient Scientists of India by Satya Prakash
10. Phytochemical Methods by: J. B. Harborne (Chapmann & Hall)
11. Vaisheshik Darshan by Kanad

### Course Objectives

1. Chemistry in Vedic literature and Indian philosophy
2. Metallic Medicines in Ayurveda
3. Pharmacodynamics of Ayurvedic drugs
4. Classification and Constituents of Crude Drugs
5. Plant Analysis
6. Analysis of Ayurvedic and Modern drugs

### Course Outcomes (COs)

By the end of this course, students will be able to:

CO:1 Understand the ancient vedic chemistry and its comparison with Modern theories.

CO:2 This will provide the basics of Metallic medicines as per Ayurved.

CO:3 Understanding of Ayurvedic Pharmacodynamics Increases along with classification of crude drugs.

CO:4 Provides basics of Phytochemistry and its applications.

CO:5 Enhances the knowledge of Drug analysis.

CO:6 Course will provide knowledge of chemistry applications from ancient to modern times.

**Mapping of course Outcomes (COs) with program outcomes (POs)**

<b>Course Outcomes/Program outcomes</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
CO:1	X							
CO:2				X	X			
CO:3					X	X		
CO:4	X				X		X	
CO:5	X	X	X				X	X
CO:6	X	X	X				X	X

Put 'X' in relevant column of mapping