



# Shri Vaishnav Vidyapeeth Vishwavidyalaya

## Department of Chemistry

### Generic Elective Course

#### Choice Based Credit System (CBCS)

Semester VII

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*
GUCH701	UG	INTRODUCTION TO HUMAN BODY CHEMISTRY	3	0	0	3	60	20	20	00	00

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;

\*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

#### Course Objectives:

1. To understand the importance of metals and organic groups for human being.
2. To understand the functioning and significance of biomolecules and related chemical reactions.
3. To create the awareness about Human well being.

#### Course Outcomes:

##### By the end of the course:

1. The students will be able to understand the significant role of metal ions and organic groups in human body.
2. The students will be able to identify the organic functional groups by qualitative analysis.
3. The students will be able to interpret how the biomolecules acts on the body and its mechanisms.
4. The students become aware about their mental and physical well being.

#### Syllabus:

##### Unit I: Role of Metal ions in Human Body

Sources and biological functions of sodium (Na), potassium (K), magnesium (Mg), and calcium (Ca)(main group of elements) and vanadium (V), chromium (Cr), manganese (Mn), iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), zinc (Zn), molybdenum (Mo), and cadmium (Cd) (Transition metal elements)


##### Unit II: Chemistry of Essential Organic Functional Groups

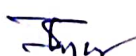
Structure of Hydroxyl, Carboxyl, Amino, Methyl and Phosphate group and their functioning and importance in human physiology. Testing of various organic functional groups.

##### Unit III: Role of Important Biomolecules

Chemical constituents, properties and functions of energy rich bio molecules, structural and body building materials, accessory growth agents, biocatalysts and chemical messengers.

  
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#### Unit IV: Chemical Reactions in Human Body

Introduction, Definition, Important Chemical reactions with examples. Catabolic and Anabolic pathways related to Biomolecules for Human vitality


#### Unit V: Human Health

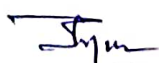
Characteristics of good human health, Symptoms, Causes and chemical treatment of Common diseases; Typhoid, Pneumonia, Common cold, air borne diseases, Allergy and Nutritional disorders. Effects of Tobacco, Smoking, Drug and alcohol abuses.

#### Text Books:

1. Metal Ions in Biological Systems: H G Seiler, H Sigel, A Sigel.
2. Textbook of Biochemistry with Clinical Correlations: T.M. Devlin, (John Wiley & Sons, Inc. New Jersey),
3. OUTLINES OF BIOCHEMISTRY: E.E. Conn and P.K. Stumpf. (Wiley Eastern, New Delhi).

  
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