

| DEPARTMENT OF CHEMISTRY | | | | CLASS: II B.Sc. Chemistry | | | | |
|-------------------------|-------------|-------------|----------------------|---------------------------|--------------------|-----|-----|-------|
| Sem | Course Type | Course Code | Course Title | Credits | Contact Hours/week | CIA | Ext | Total |
| III & IV | Self-Study | 20U4CSS1 | Chemistry and Health | 2 | | 50 | 50 | 100 |

Course Objectives

This is a self-study course on understanding chemistry in health. This is an attempt to make the students aware of fundamental chemistry of health maintenance with food and medicines, deviation from healthy living, correcting such deviation with medicinal practices and products.

UNIT –I: Food and Health (6 hrs)

Food materials: sources, types – calorific value-Macro and micronutrients – non- dietary foods - balanced diet-imbalance and its consequences.

UNIT-II: Health and Chemicals (6 hrs)

Food and allergy -natural and manmade food materials - food pollution – food contamination-organic food materials- Effect of food materials on body ailments.

UNIT-III: Health and Biomolecules (6 hrs)

Health maintenance - Height weight-body mass index-obesity – Role of enzymes , hormones in health - Nutritional additives-vitamins-micro nutrients - various disorders associated with deficiencies of metal and non metal elements. Sources for various nutrients - fibre content - vitamins etc.

UNIT- IV: Diagnostic tools (6 hrs)

Traditional methods of diagnosis – Pulse – blood – Microscopy, Endoscopy, Auto-analyser, Differential cell counter, X-ray, ECG, EEG,scanning : ultrasound, echo, CT, MRI,

UNIT –V: Drug Chemistry (6 hrs)

Requirements of an ideal drug - Need for conversion of drug into medicine – Additives and their role – Various forms of administration of drugs: solid, liquid, semisolid, aerosols, powders, tablet, capsules, injectables, syrups, suspensions, ointments, creams.

References:

1. David Krupadanam.G. L. , Vijayaprasad. D, VaraprasadRao. K, Reddy. K. L. N, Sudhakar. C, Drugs University press (India) Ltd., Orient Longman, First edn.2001.
2. Ramnaiksood, Medical laboratory technology-Methods and interpretation, 3rd edn, Jaypee Brothers medical publishers, 1995.
3. JayashreeGhosh, Applied Chemistry, 1stEdn, S. Chand & company pvt. Ltd, 2016.

Name of the Course designers

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