Subject Code : CCSHS2

PHYSOLOGY

OBJECTIVES:

To enable students:

1. Understand the structure and physiology of various organs of the body.
2. Obtain a better understanding of nutrition and Dietetics through the study of Physiology.

THEORY:

UNIT - I

1.Blood – Composition.

RBC- Structure, functions, erythropoiesis, Haemoglobin. WBC- Classification, functions.

2. Heart and Circulation.

Heart – Anatomy and Physiology.

Blood vessels – structure of artery, vein, capillaries, cardiac output. Arterial Blood Pressure – clinical measurement of B.P., Variation, temporary and permanent factors Responsible for maintenance of normal B.P.Origin and conduction of heart beat.Cardiac Cycle.

UNIT – II

3.Respiratory System:

Structure of respiratory organs.Mechanism of respiration. Chemistry of respiration.

4.Excretory system:

Physiology of kidney- nephron, formation of urine, voiding of urine. Skin-structure and functions, Regulation of body temperature.

UNIT - III

5.Digestive System:

General anatomy of the digestive system. Digestion in the mouth, Stomach and intestine, Movements of small intestine, Liver-structure and functions.

6.Endocrinology:

Structure and functions of thyroid, pituitary, parathyroid, adrenals islets of langerhans of pancreas, sex glands.

UNIT – IV

7. Reproductive System:

- General anatomy – female and male reproductive system. Spermatogenesis, Oogenesis.
- Menstrual Cycle - phases and endocrine control.
- Fertilisation, development of embryo, pregnancy, parturition.
- Mammary glands – Structure, physiclogy of lactation.
- Family planning methods (only the physiological aspects)

8.Special Senses:

Physiology of vision, structure of Eye, Dark and Light adaptation, accommodation of the
Eye, visual fields, common defects due to abnormalities, presbyopia, cataract, astigmatism.

UNIT - V

9. Nervous Systems:

a. Spinal cord – Structure and functions, ascending and decending tracts.
b. Brain – Structure and functions of cerebrum, cerebellum.
c. Autonomic Nervous system – Sympathetic and parasympathetic divisions.

PRACTICALS:

1. Histology of tissues.
2. Estimation of Hemoglobin, RBC, WBC count, Demonstration.
3. Identification of different types of WBC of WBC-Demonstration.
4. Determination of blood groups.
5. Arterial blood presaure and pulse-rate effect of exercise – Demonstration.
6. Histology of Artery, Vein, trachea, Lungs, Ovary, Testis, Skin, Kidney, digestive system.

Related Experience :

1. Visit to Blood Banks.
2. Discussion of blood donation.
3. Interpreting the results of blood tests with reference to WBC, RBC, ESR.
4. Visit to Family Planning Clinics.
5. Measurements of blood pressure and interpretation of the results.

REFERENCE:

1. Charles, Herbert, Best and Norman - The living Body, A test in Human Physiology, Burke Taylor, 1975 Asia Publishing House, Bombay.
2. Wright – Samson, 1971 - Applied Physiology, Oxford University press, Madras.
3. Thrence, A.Rogers, 1961 - Elementary to Human Physiology.A text book of under graduate. Johnwiley Sons, New
4. Sharada Subramaniam and - Text book of Human Physiology, Madhavan Kutty, 1971 Orient Longman, New Delhi.