**Human Genetics Semester III (CBCS)**

**Skill Enhancement**

**Course Title: Haematology Code: SEC-HG-16-301**

**UNIT I: PERIPHERAL BLOOD EXAMINATION**

1. Collection of Blood
2. Anticoagulants- Types (Natural and Synthetic) and their use
3. Estimation of Haemoglobin Concentration
4. Bleeding and Clotting time – use of different blood lancing devices

**UNIT II: BLOOD FORMED ELEMENTS**

1. Total Red Blood Cell count
2. Total leucocyte count
3. Differential leucocyte count
4. Erythrocyte Sedimentation Rate

**UNIT III: ANEMIAS**

1. Definition; Mechanism and Classification
2. Morphologic Types of Anemia
3. Deficiency Anemias
4. Haemolytic Anemia

**UNIT IV: HAEMOGLOBINOPATHIES**

1. Normal and abnormal Haemoglobins
2. Sickle cell Anemia
3. Thalassemia
4. Investigations of Haemoglobinopathies.

**Human Genetics Semester IV (CBCS)**

**Skill Enhancement**

**Course Title: GENERAL PATHOLOGY Code: SEC-HG-17-401**

**Unit I. Cell Injury and Cellular Adaptations**

* 1. Normal Cell
  2. Cell Injury- types of cell injury, etiology of cell injury, morphology of cell injury
  3. Cell death: types- autolysis, necrosis, apoptosis & gangrene.
  4. Cellular adaptations-atrophy, hypertrophy, hyperplasia & dysplasia.

**UNIT II. Inflammation**

2.1. Cells involved in inflammation

2.1. Acute inflammation - vascular event, cellular event

2.2. Chronic Inflammation - general features, granulomatous inflammation.

2. 3. Control of Inflammation

**UNIT III. Haemodynamic Disorders**

3.1 Oedema, hyperemia, congestion.

3.2. Haemorrhage, circulatory disturbances, Thrombosis

3.3. Ischaemia, Infarction and Stroke.

3.4 Healing: Definition, different phases of healing and Factors influencing wound healing.

**UNIT IV. Microscopy**

1. Components, Setting of the Compound microscope and Focusing of object.

3. Use of low & high power objectives of microscope.

4. Use of oil immersion lens.

5. Care and Maintenance of the microscope.

**Human Genetics Semester V (CBCS)**

**Skill Enhancement Course**

**Course Title: BASICS OF HIV/AIDS Code: SEC-HG-17-501**

**UNIT I. Introduction to HIV/AIDS**

* 1. HIV Virus: structure and its strains
  2. Human host: T cells, T cells function & HIV, Antibodies vs AIDS
  3. Types of HIV Infection: Healthy carrier state; Lymphadenopathy syndrome (LAS); AIDS related complex.

**UNIT II. HIV/AIDS Prevention**

2.1. Mechanism of transmission

2.2. Prevention of infection

2.3. Prevention Programmes : International & National Policies.

**UNIT III. HIV/AIDS Counselling**

3.1. Counselling : Concept and Approaches: Psychoanalytical, Behavioristic, Cognitive

and Humanistic approach

3.2. Family Counseling - Approaches to family therapy

3.3. Group counselling technique.

**UNIT IV**. **Treatment and Support**

4.1. HIV/AIDS Counselling: Pre and Post HIV test counselling; HIV infected individuals and their caretakers.

4.2. HIV/AIDS Treatment Adherence: Definition, measurement, factors associated with adherence and consequences of non-adherence.

4.3. Care and Support for the person living with HIV/AIDS (Prenatal and Antenatal care).

***Suggested Books***

1. S. Rao, Narayana (1993): Counselling and Guidance, New Delhi : Tata McGraw Hill
2. Satpathy, G.C. (2002) : Aids Transmission : Challenges in the New Millennium, Gyan Publishers
3. David F. Marks, Michael Hurray, Brian Evans and Carla Willig (2000) : Health Psychology; Theory, Research and Practice, New Delhi : Sage Publications

**Human Genetics Semester VI (CBCS)**

**Skill Enhancement Course**

**Course Title: GENES AND HUMAN DISEASES Code: SEC-HG-17-601**

**UNIT I: Chromosomal Disorders**

* 1. Structural abnormalities
  2. Numerical disorders
  3. Mechanism of chromosomal aberrations
  4. Sex linked diseases- Haemophilia and color blindness

**UNIT II: Single Gene Disorders**

2.1. Cystic fibrosis, Phenylketonuria

2.2. Sickle cell anemia

2.3. Huntingtons disease

2.4. Galactosemia

**UNIT III: Multifactorial Inheritance**

3.1. Heart Disease

3.2. Diabetes

3.3. Arthritis

3.4. Cancer

**UNIT IV: Genetic Counselling and Management**

4.1. Indication of prenatal diagnosis and chromosomal testing

4.2. Invasive and Non-Invasive methods: Amniocentesis, Chronic Villus Sampling,

Ultrasound, Maternal blood screening.

4.3. Management of genetic disorders.

4.4. Counselling in common Mendalian and multifactorial syndromes.