



Tripura University

(A Central University)

Suryamaninagar

West Tripura

Syllabus for
Four Years Undergraduate Programme Subject:
Human Physiology
(As per NEP-2020)

2nd Semester (Minor)

Revised as on October, 2025

Semester-II
Paper-2A (Theory)
HP- 201M

Full marks-60 (Internal assessment-24; End Sem. Exam. -36)

Unit-1: Physiology of Blood and body fluids-I

1. Composition and general functions of blood. Plasma - Plasma proteins- types and functions.
2. Hematopoiesis. Haemopoietic stem cell, Site of Blood cells Formation. Erythropoiesis –factors effecting. Fate of RBC.
3. Tissue fluid and Lymph- Composition and function.
4. ESR-its importance. Hemoglobin-structure, types. Thalassemia and Haemoglobinopathies- HbS, HbE, HbD.

Unit-2: Physiology of Blood and body fluids-II

1. Blood coagulation: mechanism, role of platelets. Hemophilia, purpura
2. Blood group -ABO, Rh system. Blood transfusion and its hazards.
3. Blood volume- Factor effecting and determination of blood volume.
4. Anemia-types, leukemia, leukopenia, polycythemia.

Unit-3: Immunology

1. WBC-morphology, types. Functions of different types of WBC:
2. Primary and secondary lymphoid organ. Antigen, Immunogen. Primary and secondary immune response. Innate and acquired immunity.
3. Immunity-- Humoral immunity - classification, functions of antibodies. General structure of IgG antibody.
4. Cell mediated immunity-Role of NK cells, T_H and T_C cells. Vaccination.

Paper-2B (Practical)

HP- 201M

Full marks-40 (Internal assessment-16; End Sem. Exam. -24)

CONTENTS:

1. Introduction to compound microscope.
2. Preparation and staining of blood film with Leishman's stain. Identification of blood cells.
3. Determination of differential leukocyte count (DLC).
4. Hemoglobin estimation by Sahli's hemoglobinometer.
5. Preparation of hemin crystals.
6. Determination of bleeding time and clotting time.
7. Determination of Blood group.