

List of Ph.D. Course work subjects that can be offered under
Phathology Group from 2026

Phathology							
Group I		Group II		Group III		Group IV	
Subject Code	Name of the subject	Subject Code	Name of the subject	Subject Code	Name of the subject	Subject Code	Name of the subject
PHPL101	Haematology	PHPL201	General Pathology				

PHPL101: HAEMATOLOGY

Overview of Physiology of Blood

Normal Haematopoiesis, Red Blood Cells, White Blood cells, Immune System, Megakaryopoiesis, Normal Haemostasis.

Disorders of Red Blood cells (Anaemias)

- Approach to Anaemias - Diagnosis, Classification of Anemia.
- Anaemias due to Impaired Red cell Production – Iron deficiency Anemia and Megaloblastic Anemia
- Aplastic Anemia and Related Disorders – Acquired, Constitutional and Pure Red Cell Aplasia.
- Anemia of Chronic Disorders, Sideroblastic Anemia, Anemia of Chronic Renal Failure.
- Anemia due to Excessive Red Cell Destruction -Disorders of Cell Membrane, Hereditary Spherocytosis,
- Hereditary Disorders of Haemoglobin – Thalassemia and Sickle Cell Disorders.
- Disorders of Red Cell Enzymes-G6PD Deficiency
- Immune Hemolytic Anaemias – Classification, Autoimmune Hemolytic Anemia due to Warm and cold -reacting Autoantibodies, Drug-induced Immune Hemolytic Anaemias.
- Hemolytic Disease of the Fetus and New Born – Rh Hemolytic Disease of the Fetus and Newborn & ABO Hemolytic Disease of Newborn.
- Paroxysmal Nocturnal Hemoglobinuria

Disorders of White Blood cells

- Acute Leukemia, Myelodysplastic Syndrome, Myeloproliferative Neoplasms
- Chronic Lymphoid Leukemias- Prolymphocytic Leukemia, Hairy Cell Leukemia. Plasma cell Dyscrasis-Multiple Myeloma,
- Quantitative and qualitative Disorders of Leukocytes- Disorders of Granulocytes -Neutrophilia, Leukoerythroblastic Reaction, Leukemoid

Reaction, Neutropenia, Eosinophilia, Basophilia, Disorders of Phagocytic Leukocytes characterized by Morphological Changes.

- Disorders of Monocyte -Macrophage system – Monocytosis, Storage Disease, Lymphocytosis

Approach to Diagnosis of Bleeding Disorders

- Clinical and Laboratory Evaluation, Screening and Specific Tests.
- Bleeding Disorders Caused by Abnormalities of Blood Vessels (The Vascular Purpuras)
- Bleeding Disorders Caused by Abnormalities of Platelets- Thrombocytopenia.
- Disorders of Coagulation – Inherited – Haemophilia A, Von Willebrand Disease, Haemophilia B and Acquired Disorders of Coagulation. - Vitamin K deficiency, Liver Disease(Cirrhosis of Liver) Disseminated Intravascular Coagulation.
- Classification, Normal Metabolism, Pathogenesis, Types Causes, General Morphological Features, clinical and Laboratory Features, Diagnosis with its Treatment.

PHPL201: GENERAL PATHOLOGY

- **Cell Injury and Cellular Adaptations** - The Normal Cell, Etiology of Cell Injury, Pathogenesis of Cell Injury, Morphology of Cell Injury, Intracellular Accumulations, Pigments, Morphology of Irreversible Cell Injury Cellular Adaptations, Cellular Aging
- **Inflammation and Healing** - Inflammation ,Introduction, Acute Inflammation, Chemical Mediators of Inflammation, The Inflammatory Cells, Morphology of Acute Inflammation, Chronic Inflammation, General Features of Chronic Inflammation, Systemic Effects of Chronic Inflammation, Types of Chronic Inflammation, Granulomatous Inflammation, Examples of Granulomatous Inflammation, Tuberculosis, Leprosy, Syphilis, Actinomycosis, Sarcoidosis (Boeck's Sarcoid), Healing, Regeneration, Repair, Wound Healing, Healing in Specialised Tissues
- **Derangements of Homeostasis and Haemodynamic** - Homeostasis, Disturbances of Body Fluids, Oedema, Dehydration, Overhydration, Disturbances of Electrolytes, Acid-base Imbalance, Haemodynamic Derangements, Disturbances in the Volume of Circulating Blood, Haemorrhage, Shock, Circulatory Disturbances of Obstructive Nature, Thrombosis, Embolism, Ischaemia, Infarction
- **Neoplasia** - Nomenclature and Classification, Characteristics of Tumours, Rate of Growth, Cancer Phenotype and Stem Cells, Clinical and Gross Features, Microscopic Features, Local Invasion, Metastasis, Grading and Staging of Cancer, Epidemiology and Predisposition to Neoplasia, Cancer Incidence, Epidemiologic Factors, Carcinogenesis: Etiology and Pathogenesis of Cancer, Molecular Pathogenesis of Cancer, Chemical Carcinogenesis, Physical Carcinogenesis, Biologic Carcinogenesis, Viruses and Human Cancer: A Summary, Clinical Aspects of Neoplasia, Tumour-host Inter-relationship, Pathologic Diagnosis of Cancer

- **Environmental and Nutritional Diseases** - Introduction, Environmental Pollution, Air Pollution, Tobacco Smoking, Chemical and Drug Injury, Therapeutic Drug Injury, Non-therapeutic Toxic Agents, Environmental Chemicals, Injury by Physical Agents, Thermal and Electrical Injury, Injury by Radiation, Nutritional Diseases, Obesity, Starvation, Protein-energy Malnutrition, Disorders of Vitamins, Metals and Trace Elements, Diet and Cancer
- **Genetic and Paediatric Diseases** - Developmental Defects, Cytogenetic (Karyotypic) Abnormalities, Single-gene Defects (Mendelian Disorders), Storage Diseases (Inborn Errors of Metabolism), Multifactorial Inheritance, Other Paediatric Diseases