



INTEGRAL UNIVERSITY



INSPIRING EXCELLENCE

INTEGRAL INSTITUTE OF MEDICAL SCIENCES & RESEARCH (IIMSR)

DEPARTMENT OF PATHOLOGY



PhD. Entrance Syllabus

Session: 2024-25

Dr. Priyanka Singh
Dr. Priyanka Singh
MBBS, MD
Professor & HOD, Dept. of Pathology
IIMSR, Lucknow

Mhande
Prof. ABHAY CHANDRA
MBBS, MS, MCh (CVTS), DNB (CVTS), MNAMS, FICS (Thoracic)
FICS (CVTS), FIACS (CVTS), FAS, FVSI (Vascular)
Cardiovascular and Thoracic Surgeon
Ghazi
Integral Institute of Medical Sciences and Research
Integral University
Lucknow, Uttar Pradesh



**INTEGRAL INSTITUTE OF MEDICAL SCIENCES & RESEARCH
PhD. ENTRANCE SYLLABUS-2024
PATHOLOGY**

I. General Pathology:

1. Normal cell and tissue structure and function.
2. The changes in cellular structure and function in disease.
3. Causes of disease and its pathogenesis.
4. Reaction of cells, tissues, organ systems and the body as a whole to various sublethal and lethal injuries.
 - a) Applied Anatomy, Physiology, Biochemistry, Histology and Cytopathology in context to the subject of Pathology.
 - b) Techniques in pathology pertaining to all the sub disciplines in the subject of pathology.
 - c) Recent advances in pathology encompassing its sub disciplines.

II. Systemic Pathology:

1. Normal structure and function of various organ systems.
2. Etiopathogenesis, gross features and microscopic alterations of structure of these organ systems in disease and functional correlation with clinical features.
3. Histogenetic and pathophysiologic process associated with various lesions.
 - a. Applied Anatomy, Physiology, Biochemistry, Histology and Cytopathology in context to the subject of Pathology.
 - b. Techniques in pathology pertaining to all the sub disciplines in the subject of pathology.
 - c. Recent advances in pathology encompassing its sub disciplines

III. Hematopathology:

1. Principles of the practice of Haematology for the planning of tests, interpretation and diagnosis of diseases of the blood and bone marrow.
2. Various equipment's used in Haematology.
3. Automation and quality assurance in Haematology
 - a. Applied Anatomy, Physiology, Biochemistry, Histology and Cytopathology in context to the subject of Pathology.
 - b. Techniques in pathology pertaining to all the sub disciplines in the subject of pathology.
 - c. Recent advances in pathology encompassing its sub disciplines.

IV. Transfusion Medicine AND Chemical Pathology:

1. ABO, Rh blood groups and its significance.
2. Blood component therapy.
3. Transfusion therapy including the use of whole blood and RBC concentrates.
4. Rationale of pre transfusion testing.



INTEGRAL INSTITUTE OF MEDICAL SCIENCES & RESEARCH PhD. ENTRANCE SYLLABUS-2024 PATHOLOGY

5. Adverse reactions to transfusion of blood and components.
 6. Quality control in Blood Bank.
 7. Renal Function Test
 8. Liver function test
 9. Pancreatic function test
 10. Endocrine function test
 11. Tests for malabsorption
 12. Gastric function tests
 13. Tests for myocardial diseases.
 - a. Applied Anatomy, Physiology, Biochemistry, Histology and Cytopathology in context to the subject of Pathology.
 - b. Techniques in pathology pertaining to all the sub disciplines in the subject of pathology.
 - c. Recent advances in pathology encompassing its sub disciplines.
- V. Immunology & Immunodiagnostics AND Genetics & Molecular Genetics:
1. Current concepts of structure and function of immune system, its aberrations and mechanisms involved.
 2. Scope, principles, limitations and interpretation of the results of the procedures employed in clinical and experimental studies.
 3. ELISA Techniques.
 4. Principles of molecular biology related to the understanding of disease process and its use in various diagnostic tests.
 5. Principles and steps of interpretation of polymerase chain reaction (PCR), Western blot test, Southern blot, Northern blot and hybridization process.
 - a. Applied Anatomy, Physiology, Biochemistry, Histology and Cytopathology in context to the subject of Pathology.
 - b. Techniques in pathology pertaining to all the sub disciplines in the subject of pathology.
 - c. Recent advances in pathology encompassing its sub disciplines