Department of Pathology

S.No	Name of the Fellowship	Eligibility	Duration
01	Fellowship in Cytopathology	MD/DNB Patho	1 yr
02	Fellowship in Haemato Pathology	MD/DNB Patho	1 yr
		DM Haemato	1 yr
03	Fellowship in Gastro and Hepato Pathology	MD/DNB Patho	1 yr
04	Fellowship in Renal Pathology	MD/DNB Patho	1 yr
05	Fellowship in Neuropathology	MD/DNB Patho	1 yr
06	Fellowship in Gastrointestinal and Liver Pathology	MD/DNB Patho	1 yr
07	Fellowship in Pediatric Pathology	MD/DNB Patho	1 yr
08	Fellowship in Onco Pathology	MD/DNB Patho	1 yr
09	Fellowship in Forensic Pathology	MD/DNB Patho	1 yr
10	Fellowship in Toxicology	MD/DNB Patho	1 yr
11	Fellowship in Flow-Cytometry	MD/DNB Patho	1 yr

Fellowship in Cytopathology

Course Overview

The Fellowship in Cytopathology is a one-year intensive program designed to train healthcare professionals in the specialized field of cytological diagnostics. The course focuses on microscopic evaluation of cells, fine-needle aspiration cytology (FNAC), liquid-based cytology, molecular techniques in cytopathology, and integration with histopathological findings. It includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or equivalent qualification
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the principles and techniques of cytopathology.
- Gain proficiency in fine-needle aspiration cytology (FNAC) procedures and interpretation.
- Learn advanced molecular and immunocytochemical techniques in cytodiagnosis.
- Master the integration of cytology with histopathology for diagnostic accuracy.
- Understand quality assurance and reporting standards in cytopathology.
- Enhance decision-making and procedural skills in cytodiagnostics.
- Conduct research in cytopathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Cytopathology

Module	Topics Covered
Principles of Cytopathology	Cell structure, function, and pathology
Techniques in Cytology	Sample collection, preparation, and staining methods
FNAC Techniques	Aspiration techniques, smear preparation, rapid on-site evaluation (ROSE)

Module	Topics Covered
Liquid-Based Cytology	Principles, techniques, and comparative advantages
Quality Control & Reporting	Standardized reporting systems (Bethesda, Paris, Milan)
Clinical Rotations – Lab & OPD	Hands-on experience in sample collection and analysis

Semester 2: Advanced Cytopathology & Specialized Techniques

Module	Topics Covered
Cytopathology of Major Organ Systems	Respiratory, gastrointestinal, urinary, gynecological, and breast cytology
Molecular & Immunocytochemistry	Application in diagnostic cytopathology
Digital & AI-Assisted Cytology	Emerging technologies in cytodiagnostics
Legal & Ethical Aspects	Informed consent, medico-legal issues
Research Project & Case Studies	Literature review, case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Cytopathology	Perform microscopic evaluation and diagnosis of cellular specimens.
Expertise in FNAC	Conduct and interpret FNAC for diagnostic and therapeutic purposes.
Advanced Molecular Cytology	Utilize immunocytochemistry and molecular techniques for precise diagnosis.
Quality Assurance & Standardized Reporting	Implement quality control measures and structured reporting formats.
Research & Innovation	Contribute to advancements in cytopathology through research and case studies.

Course Outcomes

Course Outcome	Description
Cytological Techniques	Master various cytological preparation and staining methods.
FNAC & ROSE Procedures	Perform and interpret fine-needle aspiration cytology efficiently.
Molecular & Immunocytochemical Analysis	Apply advanced diagnostic techniques in cytopathology.
Digital Cytology & AI Integration	Understand and utilize emerging AI tools in cytodiagnosis.
Cytology-Histopathology Correlation	Integrate cytological findings with histopathological reports.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Cytology Cases	40
FNAC & Slide Preparation	Sample Collection, Smear Preparation	50
Immunocytochemistry & Molecular Techniques	Application & Interpretation	30
OSCE	Clinical Scenarios, Skill Demonstration	40
Digital Cytology & AI Tools	Practical Demonstration	40

Viva Voce (Oral Examination) (Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Cytopathology Cases	50
Recent Advances in Cytopathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Cytology	30

Research/Dissertation Submission (Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Koss' Diagnostic Cytology and Its Histopathologic Bases – Leopold G. Koss
- Comprehensive Cytopathology – Marluce Bibbo & David Wilbur
- Cytology: Diagnostic Principles and Clinical Correlates – Edmund S. Cibas
- The Bethesda System for Reporting Thyroid Cytopathology – Syed Z. Ali

Journals & E-Resources:

- Journal of Clinical Cytology & Histopathology – https://www.cytopathologyjournal.org/
- Acta Cytologica – https://www.karger.com/Journal/Home/223831
- The American Journal of Cytopathology – https://journals.lww.com/cytopathology/
- European Cytopathology Society – https://www.escoc.eu/

Fellowship in Haemato Pathology

Course Overview

The Fellowship in Haemato Pathology is a one-year intensive program designed to train healthcare professionals in the specialized field of hematological diagnostics. The course focuses on blood and bone marrow pathology, flow cytometry, coagulation disorders, molecular hematopathology, and integration with clinical findings. It includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or equivalent qualification
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the principles and techniques of haematopathology.
- Gain proficiency in blood smear interpretation and bone marrow examination.
- Learn advanced molecular and immunophenotyping techniques in hematological disorders.
- Master the integration of haematological findings with clinical data for diagnostic accuracy.
- Understand quality assurance and reporting standards in haematopathology.
- Enhance decision-making and procedural skills in hematodiagnostics.
- Conduct research in haematopathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Haematopathology

Module	Topics Covered
Principles of Haematopathology	Hematopoiesis, blood cell morphology, anemia, leukemia, lymphoma
Techniques in Haematology	Blood smear preparation, staining methods, automated hematology analyzers

Module	Topics Covered
Bone Marrow Pathology	Bone marrow aspiration, biopsy techniques, interpretation
Coagulation & Hemostasis	Coagulation cascades, bleeding disorders, thrombotic disorders
Quality Control & Reporting	Standardized reporting systems for hematological malignancies
Clinical Rotations – Lab & OPD	Hands-on experience in sample collection and analysis

Semester 2: Advanced Haematopathology & Specialized Techniques

Module	Topics Covered
Hematological Malignancies	Diagnosis and classification of leukemias, lymphomas, myelodysplastic syndromes
Molecular & Flow Cytometry Techniques	PCR, FISH, next-generation sequencing, immunophenotyping
Hemoglobinopathies & Red Cell Disorders	Sickle cell disease, thalassemia, hemolytic anemias
Transfusion Medicine	Blood banking, compatibility testing, transfusion reactions
Legal & Ethical Aspects	Informed consent, medico-legal issues in hematopathology
Research Project & Case Studies	Literature review, case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Haematopathology	Perform hematological diagnostics and reporting.
Expertise in Bone Marrow Examination	Conduct and interpret bone marrow aspirations and biopsies.
Advanced Molecular Hematology	Utilize flow cytometry, FISH, and NGS for hematological malignancies.

Program Outcome	Description
Quality Assurance & Standardized Reporting	Implement quality control measures and structured reporting formats.
Research & Innovation	Contribute to advancements in haematopathology through research and case studies.

Course Outcomes

Course Outcome	Description
Hematological Techniques	Master various hematological preparation and staining methods.
Bone Marrow & Peripheral Blood Analysis	Perform and interpret bone marrow aspirates and blood smears.
Molecular & Flow Cytometry Analysis	Apply advanced diagnostic techniques in hematology.
Hematopathology-Histopathology Correlation	Integrate hematological findings with histopathological reports.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%

Assessment Type	Weightage
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Haematopathology Cases	40
Bone Marrow & Blood Smear Interpretation	Sample Collection, Slide Preparation	50
Immunophenotyping & Molecular Techniques	Application & Interpretation	30
OSCE	Clinical Scenarios, Skill Demonstration	40
Transfusion Medicine & Blood Bank	Practical Demonstration	40

Viva Voce (Oral Examination) (Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Haematopathology Cases	50
Recent Advances in Haematopathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Hematology	30

Research/Dissertation Submission (Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Wintrobe's Clinical Hematology – John P. Greer
- WHO Classification of Tumors of Hematopoietic and Lymphoid Tissues
- Practical Haematology – Barbara J. Bain
- Molecular Hematology – Drew Provan & John Gribben

Journals & E-Resources:

- American Journal of Hematology – https://onlinelibrary.wiley.com/journal/10968652
- Blood Journal – https://ashpublications.org/blood
- British Journal of Haematology – https://onlinelibrary.wiley.com/journal/13652141
- European Hematology Association – https://ehaweb.org/

Fellowship in Gastro and Hepato Pathology

Course Overview

The Fellowship in Gastro and Hepato Pathology is a one-year intensive program designed to train healthcare professionals in the specialized field of gastrointestinal and hepatic pathology. The course focuses on diseases of the digestive system, including the liver, pancreas, and gastrointestinal tract, utilizing histopathology, molecular diagnostics, and advanced laboratory techniques. It includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or equivalent qualification
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the principles and techniques of gastro and hepato pathology.
- Gain proficiency in histopathological evaluation of gastrointestinal and hepatic diseases.
- Learn advanced molecular and immunohistochemical techniques in GI and hepatic disorders.
- Master the integration of histological findings with clinical and imaging data for diagnostic accuracy.
- Understand quality assurance and reporting standards in gastro and hepato pathology.
- Enhance decision-making and procedural skills in gastrointestinal and hepatic pathology.
- Conduct research in gastro and hepato pathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Gastro and Hepato Pathology

Module	Topics Covered
Principles of Gastro & Hepato Pathology	Histology of the GI tract and liver, normal vs. pathological changes
Techniques in GI Pathology	Endoscopic biopsy interpretation, histological staining methods
Liver Pathology	Acute and chronic liver diseases, cirrhosis, hepatitis
Inflammatory & Infectious GI Disorders	Gastritis, enterocolitis, H. pylori infections
Quality Control & Reporting	Standardized reporting systems for GI and hepatic malignancies
Clinical Rotations – Lab & OPD	Hands-on experience in sample collection and analysis

Semester 2: Advanced Gastro and Hepato Pathology & Specialized Techniques

Module	Topics Covered
Gastrointestinal Malignancies	Diagnosis and classification of esophageal, gastric, colorectal, and pancreatic cancers
Molecular & Immunohistochemistry Techniques	PCR, FISH, immunohistochemistry in GI and hepatic pathology
Liver Tumors & Transplant Pathology	Hepatocellular carcinoma, cholangiocarcinoma, post-transplant biopsies
Pancreatic & Biliary Disorders	Pancreatitis, gallbladder diseases, cystic neoplasms
Legal & Ethical Aspects	Informed consent, medico-legal issues in pathology
Research Project & Case Studies	Literature review, case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Gastro & Hepato Pathology	Perform histopathological diagnostics and reporting.
Expertise in Liver & Pancreatic Pathology	Conduct and interpret liver and pancreatic biopsies.
Advanced Molecular & Immunohistochemistry Analysis	Utilize specialized techniques for GI and hepatic malignancies.
Quality Assurance & Standardized Reporting	Implement quality control measures and structured reporting formats.
Research & Innovation	Contribute to advancements in gastro and hepato pathology through research and case studies.

Course Outcomes

Course Outcome	Description
Histopathological Techniques	Master various histological preparation and staining methods.
Liver & GI Biopsy Interpretation	Perform and interpret biopsies of the liver and gastrointestinal tract.
Molecular & Immunohistochemical Analysis	Apply advanced diagnostic techniques in GI and hepatic pathology.
Gastro-Hepato Pathology Correlation	Integrate pathology findings with clinical and imaging reports.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10

Component	Credits
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Gastro & Hepato Pathology Cases	40
Liver & GI Biopsy Interpretation	Sample Collection, Slide Preparation	50
Molecular & Immunohistochemistry Techniques	Application & Interpretation	30
OSCE	Clinical Scenarios, Skill Demonstration	40
Pancreatic & Biliary Pathology	Practical Demonstration	40

Viva Voce (Oral Examination)

(Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Gastro & Hepato Pathology Cases	50
Recent Advances in Gastro & Hepato Pathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Pathology	30

Research/Dissertation Submission

(Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.

- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Liver Pathology – Linda D. Ferrell
- Gastrointestinal and Liver Pathology – Robert D. Odze
- WHO Classification of Tumors of the Digestive System
- Molecular Pathology of Liver Diseases – Satdarshan P. Monga

Journals & E-Resources:

- American Journal of Gastroenterology – https://journals.lww.com/ajg
- Journal of Hepatology – https://www.journal-of-hepatology.eu/
- Modern Pathology – https://www.nature.com/modpathol/

Fellowship in Renal Pathology

Course Overview

The Fellowship in Renal Pathology is a one-year intensive program designed to train healthcare professionals in the specialized field of kidney diseases. The course focuses on the histopathological, immunohistochemical, and molecular diagnosis of renal disorders, including glomerular, tubulointerstitial, and vascular diseases. It includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or equivalent qualification
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the principles and techniques of renal pathology.
- Gain proficiency in histopathological evaluation of kidney biopsies.

- Learn advanced molecular and immunohistochemical techniques in renal pathology.
- Master the integration of histological findings with clinical and imaging data for diagnostic accuracy.
- Understand quality assurance and reporting standards in renal pathology.
- Enhance decision-making and procedural skills in renal biopsy interpretation.
- Conduct research in renal pathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Renal Pathology

Module	Topics Covered
Principles of Renal Pathology	Histology of the kidney, normal vs. pathological changes
Techniques in Renal Pathology	Light microscopy, electron microscopy, and immunofluorescence
Glomerular Diseases	Minimal change disease, membranous nephropathy, FSGS
Tubulointerstitial & Vascular Disorders	Acute tubular injury, interstitial nephritis, vasculitis
Quality Control & Reporting	Standardized reporting systems for kidney diseases
Clinical Rotations – Lab & OPD	Hands-on experience in sample collection and analysis

Semester 2: Advanced Renal Pathology & Specialized Techniques

Module	Topics Covered
Renal Transplant Pathology	Rejection mechanisms, donor kidney evaluation, post-transplant biopsies
Molecular & Immunohistochemistry Techniques	PCR, FISH, immunohistochemistry in renal pathology
Autoimmune & Genetic Kidney Disorders	Lupus nephritis, Alport syndrome, polycystic kidney disease
Neoplastic & Cystic Kidney Diseases	Renal cell carcinoma, benign cystic diseases
Legal & Ethical Aspects	Informed consent, medico-legal issues in pathology

Module	Topics Covered
Research Project & Case Studies	Literature review, case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Renal Pathology	Perform histopathological diagnostics and reporting.
Expertise in Glomerular & Tubulointerstitial Pathology	Conduct and interpret kidney biopsies.
Advanced Molecular & Immunohistochemistry Analysis	Utilize specialized techniques for renal diseases.
Quality Assurance & Standardized Reporting	Implement quality control measures and structured reporting formats.
Research & Innovation	Contribute to advancements in renal pathology through research and case studies.

Course Outcomes

Course Outcome	Description
Histopathological Techniques	Master various histological preparation and staining methods.
Renal Biopsy Interpretation	Perform and interpret kidney biopsies.
Molecular & Immunohistochemical Analysis	Apply advanced diagnostic techniques in renal pathology.
Renal Pathology Correlation	Integrate pathology findings with clinical and imaging reports.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Renal Pathology Cases	40
Kidney Biopsy Interpretation	Sample Collection, Slide Preparation	50
Molecular & Immunohistochemistry Techniques	Application & Interpretation	30

Component	Details	Marks
OSCE	Clinical Scenarios, Skill Demonstration	40
Renal Transplant Pathology	Practical Demonstration	40

Viva Voce (Oral Examination)

(Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Renal Pathology Cases	50
Recent Advances in Renal Pathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Pathology	30

Research/Dissertation Submission (Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Heptinstall's Pathology of the Kidney – J. Charles Jennette
- Diagnostic Atlas of Renal Pathology – Agnes B. Fogo
- Renal Pathophysiology – Helmut G. Rennke
- WHO Classification of Tumors of the Kidney

Journals & E-Resources:

- American Journal of Kidney Diseases – https://www.ajkd.org/
- Journal of the American Society of Nephrology – https://jasn.asnjournals.org/
- Modern Pathology – https://www.nature.com/modpathol/

Fellowship in Neuropathology

Course Overview

The Fellowship in Neuropathology is a one-year specialized program designed to train healthcare professionals in the diagnosis and research of neurological diseases affecting the central and peripheral nervous system. The course focuses on histopathological, immunohistochemical, molecular, and ultrastructural evaluation of neurological disorders, including neurodegenerative diseases, brain tumors, and neuromuscular diseases. The program includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or equivalent qualification
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the principles and techniques of neuropathology.
- Gain proficiency in histopathological and molecular evaluation of neurological diseases.
- Learn advanced immunohistochemical and electron microscopy techniques in neuropathology.
- Master the integration of histological findings with clinical and imaging data for accurate diagnosis.
- Understand quality assurance and reporting standards in neuropathology.
- Enhance decision-making and procedural skills in brain and nerve biopsy interpretation.
- Conduct research in neuropathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Neuropathology

Module	Topics Covered
Principles of Neuropathology	Neuroanatomy, histology, and pathology of the nervous system
Techniques in Neuropathology	Light microscopy, electron microscopy, and immunohistochemistry
CNS Tumors	Gliomas, meningiomas, medulloblastomas, metastatic tumors
Neurodegenerative Diseases	Alzheimer's, Parkinson's, ALS, Huntington’s disease
Infections & Inflammatory Disorders	Meningitis, encephalitis, multiple sclerosis
Clinical Rotations – Lab & OPD	Hands-on experience in sample collection and analysis

Semester 2: Advanced Neuropathology & Specialized Techniques

Module	Topics Covered
Neuromuscular Pathology	Peripheral nerve and muscle biopsy interpretation
Molecular & Immunohistochemistry Techniques	PCR, FISH, immunohistochemistry in neuropathology

Module	Topics Covered
Pediatric Neuropathology	Congenital malformations, metabolic disorders, leukodystrophies
Trauma & Vascular Neuropathology	Stroke, traumatic brain injury, vascular malformations
Legal & Ethical Aspects	Informed consent, medico-legal issues in neuropathology
Research Project & Case Studies	Literature review, case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Neuropathology	Perform histopathological diagnostics and reporting of neurological diseases.
Expertise in CNS & PNS Pathology	Conduct and interpret brain and nerve biopsies.
Advanced Molecular & Immunohistochemistry Analysis	Utilize specialized techniques for neurological disorders.
Quality Assurance & Standardized Reporting	Implement quality control measures and structured reporting formats.
Research & Innovation	Contribute to advancements in neuropathology through research and case studies.

Course Outcomes

Course Outcome	Description
Histopathological Techniques	Master various histological preparation and staining methods.
Brain & Nerve Biopsy Interpretation	Perform and interpret neurological tissue biopsies.
Molecular & Immunohistochemical Analysis	Apply advanced diagnostic techniques in neuropathology.

Course Outcome	Description
Neuropathology Correlation	Integrate pathology findings with clinical and imaging reports.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Neuropathology Cases	40
Brain & Nerve Biopsy Interpretation	Sample Collection, Slide Preparation	50
Molecular & Immunohistochemistry Techniques	Application & Interpretation	30
OSCE	Clinical Scenarios, Skill Demonstration	40
CNS Tumor Pathology	Practical Demonstration	40

Viva Voce (Oral Examination)

(Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Neuropathology Cases	50
Recent Advances in Neuropathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Pathology	30

Research/Dissertation Submission

(Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Greenfield's Neuropathology – Seth Love
- Diagnostic Pathology: Neuropathology – Peter C. Burger
- Atlas of Neuropathology – William G. Ellis
- WHO Classification of Tumors of the CNS

Journals & E-Resources:

- Acta Neuropathologica – https://link.springer.com/journal/401
- Journal of Neuropathology & Experimental Neurology – https://academic.oup.com/jnen
- Brain Pathology – https://onlinelibrary.wiley.com/journal/17503639

Fellowship in Gastrointestinal and Liver Pathology

Course Overview

The Fellowship in Gastrointestinal and Liver Pathology is a one-year specialized program designed to train healthcare professionals in the diagnosis and research of diseases affecting the gastrointestinal (GI) tract and liver. The course focuses on histopathological, immunohistochemically, molecular, and ultrastructural evaluation of GI and hepatic disorders, including inflammatory, neoplastic, and metabolic diseases. The program includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or equivalent qualification
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the principles and techniques of gastrointestinal and liver pathology.
- Gain proficiency in histopathological and molecular evaluation of GI and hepatic diseases.
- Learn advanced immunohistochemically and special staining techniques.
- Master the integration of histological findings with clinical and imaging data for accurate diagnosis.
- Understand quality assurance and reporting standards in GI and liver pathology.
- Enhance decision-making and procedural skills in biopsy interpretation.
- Conduct research in gastrointestinal and liver pathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core GI and Liver Pathology

Module	Topics Covered
Principles of GI and Liver Pathology	Anatomy, histology, and pathology of the digestive system

Module	Topics Covered
Techniques in Pathology	Light microscopy, immunohistochemistry, special stains
Inflammatory and Infectious Disorders	Gastritis, colitis, hepatitis, parasitic and viral infections
Neoplastic Diseases	Colorectal cancer, hepatocellular carcinoma, pancreatic tumors
Liver Pathology	Cirrhosis, fatty liver disease, autoimmune hepatitis
Clinical Rotations – Lab & OPD	Hands-on experience in sample collection and analysis

Semester 2: Advanced GI and Liver Pathology & Specialized Techniques

Module	Topics Covered
Gastrointestinal Biopsy Interpretation	Endoscopic, laparoscopic, and surgical biopsy evaluation
Molecular & Immunohistochemistry Techniques	PCR, FISH, IHC in GI and liver pathology
Pediatric GI & Liver Pathology	Congenital malformations, metabolic liver diseases
Hepatic & Pancreatic Pathology	Cholestatic liver diseases, pancreatic cystic tumors
Legal & Ethical Aspects	Informed consent, medico-legal issues in pathology
Research Project & Case Studies	Literature review, case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in GI and Liver Pathology	Perform histopathological diagnostics and reporting of GI and liver diseases.
Expertise in Biopsy Interpretation	Conduct and interpret endoscopic and surgical biopsies.

Program Outcome	Description
Advanced Molecular & Immunohistochemistry Analysis	Utilize specialized techniques for digestive system disorders.
Quality Assurance & Standardized Reporting	Implement quality control measures and structured reporting formats.
Research & Innovation	Contribute to advancements in GI and liver pathology through research and case studies.

Course Outcomes

Course Outcome	Description
Histopathological Techniques	Master various histological preparation and staining methods.
Biopsy Interpretation	Perform and interpret gastrointestinal and liver tissue biopsies.
Molecular & Immunohistochemical Analysis	Apply advanced diagnostic techniques in GI and liver pathology.
GI and Liver Pathology Correlation	Integrate pathology findings with clinical and imaging reports.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of GI and Liver Pathology Cases	40
Biopsy Interpretation	Sample Collection, Slide Preparation	50
Molecular & Immunohistochemistry Techniques	Application & Interpretation	30
OSCE	Clinical Scenarios, Skill Demonstration	40
Liver Pathology	Practical Demonstration	40

Viva Voce (Oral Examination)

(Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on GI and Liver Pathology Cases	50
Recent Advances in GI and Liver Pathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Pathology	30

Research/Dissertation Submission

(Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Odze and Goldblum's Surgical Pathology of the GI Tract, Liver, Biliary Tract, and Pancreas
- WHO Classification of Tumors of the Digestive System
- Diagnostic Pathology: Hepatobiliary & Pancreas – Laura Webb Lamps
- Liver Pathology – Alastair D. Burt

Journals & E-Resources:

- American Journal of Gastroenterology – https://journals.lww.com/ajg
- Journal of Hepatology – https://www.journal-of-hepatology.eu/
- Gastroenterology – https://www.gastrojournal.org/
- Liver International – https://onlinelibrary.wiley.com/journal/14783231

Fellowship in Pediatric Pathology

Course Overview

The Fellowship in Pediatric Pathology is a one-year specialized program designed to train healthcare professionals in the diagnosis and research of diseases affecting infants, children, and adolescents. The course focuses on histopathological, immunohistochemical, molecular, and ultrastructural evaluation of pediatric disorders, including congenital, neoplastic, metabolic, and infectious diseases. The program includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or equivalent qualification
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the principles and techniques of pediatric pathology.
- Gain proficiency in histopathological and molecular evaluation of pediatric diseases.
- Learn advanced immunohistochemical and special staining techniques.
- Master the integration of histological findings with clinical and imaging data for accurate diagnosis.
- Understand quality assurance and reporting standards in pediatric pathology.
- Enhance decision-making and procedural skills in biopsy interpretation.
- Conduct research in pediatric pathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Pediatric Pathology

Module	Topics Covered
Principles of Pediatric Pathology	Anatomy, histology, and pathology of pediatric tissues
Techniques in Pathology	Light microscopy, immunohistochemistry, special stains
Congenital & Developmental Disorders	Genetic diseases, metabolic disorders, congenital malformations
Infectious & Inflammatory Disorders	Pediatric infections, autoimmune diseases, inflammatory conditions
Pediatric Neoplastic Diseases	Leukemia, neuroblastoma, Wilms tumor, pediatric sarcomas
Clinical Rotations – Lab & OPD	Hands-on experience in sample collection and analysis

Semester 2: Advanced Pediatric Pathology & Specialized Techniques

Module	Topics Covered
Pediatric Biopsy Interpretation	Endoscopic, laparoscopic, and surgical biopsy evaluation
Molecular & Immunohistochemistry Techniques	PCR, FISH, IHC in pediatric pathology
Hematopathology in Pediatrics	Pediatric leukemia, bone marrow evaluation, lymphomas

Module	Topics Covered
Neuropathology in Pediatrics	CNS tumors, metabolic brain disorders, neurodevelopmental pathology
Legal & Ethical Aspects	Informed consent, medico-legal issues in pediatric pathology
Research Project & Case Studies	Literature review, case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Pediatric Pathology	Perform histopathological diagnostics and reporting of pediatric diseases.
Expertise in Biopsy Interpretation	Conduct and interpret pediatric tissue biopsies.
Advanced Molecular & Immunohistochemistry Analysis	Utilize specialized techniques for pediatric disease diagnosis.
Quality Assurance & Standardized Reporting	Implement quality control measures and structured reporting formats.
Research & Innovation	Contribute to advancements in pediatric pathology through research and case studies.

Course Outcomes

Course Outcome	Description
Histopathological Techniques	Master various histological preparation and staining methods.
Biopsy Interpretation	Perform and interpret pediatric tissue biopsies.
Molecular & Immunohistochemical Analysis	Apply advanced diagnostic techniques in pediatric pathology.
Pediatric Pathology Correlation	Integrate pathology findings with clinical and imaging reports.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Pediatric Pathology Cases	40
Biopsy Interpretation	Sample Collection, Slide Preparation	50
Molecular & Immunohistochemistry Techniques	Application & Interpretation	30

Component	Details	Marks
OSCE	Clinical Scenarios, Skill Demonstration	40
Pediatric Neuropathology	Practical Demonstration	40

Viva Voce (Oral Examination)

(Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Pediatric Pathology Cases	50
Recent Advances in Pediatric Pathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Pathology	30

Research/Dissertation Submission

(Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Pediatric Pathology – Enid Gilbert-Barness
- Handbook of Pediatric Autopsy Pathology – Pedro A. de Alava
- WHO Classification of Tumors of Pediatric Soft Tissue and Bone
- Hematopathology of the Young – D.A. Arber

Journals & E-Resources:

- Pediatric and Developmental Pathology – https://journals.sagepub.com/home/pdp
- American Journal of Surgical Pathology – https://journals.lww.com/ajsp
- Journal of Pediatric Hematology/Oncology – https://journals.lww.com/jpho

Fellowship in Onco Pathology

Course Overview

The Fellowship in Onco Pathology is a one-year specialized program designed to train healthcare professionals in the diagnosis and research of cancerous tissues. The course focuses on histopathological, immunohistochemical, molecular, and genetic evaluation of oncological disorders, including solid tumors, hematologic malignancies, and metastatic diseases. The program includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or equivalent qualification
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in the principles and techniques of onco pathology.
- Gain proficiency in histopathological and molecular evaluation of cancerous tissues.
- Learn advanced immunohistochemical and special staining techniques.
- Master the integration of histological findings with clinical and imaging data for accurate diagnosis.
- Understand quality assurance and reporting standards in oncopathology.
- Enhance decision-making and procedural skills in biopsy interpretation.
- Conduct research in onco pathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Onco Pathology

Module	Topics Covered
Principles of Onco Pathology	Tumor biology, carcinogenesis, cancer genetics
Techniques in Pathology	Light microscopy, immunohistochemistry, special stains
Solid Tumors	Breast, lung, gastrointestinal, prostate, and soft tissue tumors
Hematologic Malignancies	Leukemias, lymphomas, myeloproliferative neoplasms
Molecular Oncology	PCR, FISH, Next-Generation Sequencing in cancer diagnostics
Clinical Rotations – Lab & OPD	Hands-on experience in tumor sample processing and analysis

Semester 2: Advanced Onco Pathology & Specialized Techniques

Module	Topics Covered
Tumor Biopsy Interpretation	FNAC, core needle biopsy, surgical biopsy evaluation
Immunohistochemistry & Special Stains	Tumor markers, predictive and prognostic markers
Metastatic Cancer & Staging	Evaluation of metastatic disease and TNM staging
Neuropathology in Oncology	Brain tumors, gliomas, meningiomas, medulloblastomas

Module	Topics Covered
Legal & Ethical Aspects	Informed consent, medico-legal issues in oncopathology
Research Project & Case Studies	Literature review, case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Onco Pathology	Perform histopathological diagnostics and reporting of oncological diseases.
Expertise in Biopsy Interpretation	Conduct and interpret tumor biopsies.
Advanced Molecular & Immunohistochemistry Analysis	Utilize specialized techniques for cancer diagnosis.
Quality Assurance & Standardized Reporting	Implement quality control measures and structured reporting formats.
Research & Innovation	Contribute to advancements in oncopathology through research and case studies.

Course Outcomes

Course Outcome	Description
Histopathological Techniques	Master various histological preparation and staining methods.
Biopsy Interpretation	Perform and interpret tumor tissue biopsies.
Molecular & Immunohistochemical Analysis	Apply advanced diagnostic techniques in oncopathology.
Onco Pathology Correlation	Integrate pathology findings with clinical and imaging reports.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Onco Pathology Cases	40
Biopsy Interpretation	Sample Collection, Slide Preparation	50
Molecular & Immunohistochemistry Techniques	Application & Interpretation	30

Component	Details	Marks
OSCE	Clinical Scenarios, Skill Demonstration	40
Tumor Staging & Classification	Practical Demonstration	40

Viva Voce (Oral Examination)

(Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Onco Pathology Cases	50
Recent Advances in Onco Pathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Pathology	30

Research/Dissertation Submission

(Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Rosai and Ackerman's Surgical Pathology – Juan Rosai
- WHO Classification of Tumors series
- Molecular Pathology in Cancer – Anil Parwani
- Essentials of Surgical Oncology – K. I. Bland

Journals & E-Resources:

- Journal of Clinical Oncology – https://ascopubs.org/journal/jco
- American Journal of Surgical Pathology – https://journals.lww.com/ajsp
- Modern Pathology – https://www.nature.com/modpathol
- The Lancet Oncology – https://www.thelancet.com/oncology

Fellowship in Forensic Pathology

Course Overview

The Fellowship in Forensic Pathology is a one-year specialized program designed to train healthcare professionals in the medico-legal investigation of deaths. The course focuses on forensic autopsy techniques, toxicology, cause of death determination, injury analysis, and legal aspects of forensic medicine. The program includes clinical rotations, hands-on laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology or Forensic Medicine
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in forensic autopsy techniques and cause of death determination.
- Gain proficiency in injury analysis and trauma pathology.
- Learn forensic toxicology and postmortem biochemical analysis.
- Master forensic histopathology and microscopic examination.
- Understand legal procedures, court testimony, and medico-legal documentation.
- Enhance decision-making and procedural skills in forensic pathology.
- Conduct research in forensic pathology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Forensic Pathology

Module	Topics Covered
Principles of Forensic Pathology	Death investigation, medico-legal principles
Autopsy Techniques	External and internal examination, organ dissection
Injury Analysis	Blunt force, sharp force, firearm, thermal injuries
Forensic Toxicology	Poisons, drugs of abuse, postmortem toxicology
Clinical Rotations – Autopsy & Toxicology Labs	Hands-on experience in forensic investigations

Semester 2: Advanced Forensic Pathology & Specialized Techniques

Module	Topics Covered
Forensic Histopathology	Microscopic analysis of injuries and disease processes
Asphyxia & Drowning Cases	Pathophysiology, postmortem findings
Sudden & Unexplained Deaths	Cardiac, neurological, and metabolic causes
Legal & Ethical Aspects	Court testimony, documentation, medico-legal ethics
Research Project & Case Studies	Literature review, forensic case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Forensic Pathology	Perform autopsies and determine the cause and manner of death.
Expertise in Injury & Trauma Analysis	Identify and document injuries for legal and medical review.
Advanced Toxicology & Biochemical Analysis	Interpret toxicology reports in medico-legal cases.
Forensic Histopathology & Microscopy	Conduct microscopic examinations of forensic samples.
Legal & Courtroom Testimony	Present medico-legal findings effectively in legal proceedings.

Course Outcomes

Course Outcome	Description
Forensic Autopsy Techniques	Master the process of external and internal postmortem examination.
Injury & Trauma Assessment	Analyze injury patterns and determine the mechanism of trauma.
Forensic Toxicology & Biochemistry	Apply toxicological methods for cause-of-death investigation.
Medico-Legal Documentation	Prepare accurate forensic reports and testify in court.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10

Component	Credits
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Forensic Pathology Cases	40
Autopsy Performance	External & Internal Examination, Organ Dissection	50
Injury Analysis	Pattern Recognition, Mechanism Assessment	30
OSCE	Clinical Scenarios, Skill Demonstration	40
Toxicology Interpretation	Lab Analysis & Reporting	40

Viva Voce (Oral Examination)

(Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Forensic Pathology Cases	50
Recent Advances in Forensic Pathology	Journal Article Discussion	20
Ethical & Legal Considerations	Medical Ethics in Forensic Medicine	30

Research/Dissertation Submission

(Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."

- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Spitz and Fisher's Medicolegal Investigation of Death – Werner Spitz
- Knight's Forensic Pathology – Pekka Saukko & Bernard Knight
- Simpson's Forensic Medicine – Richard Shepherd
- Handbook of Forensic Pathology – Vincent Di Maio

Journals & E-Resources:

- Journal of Forensic Sciences – https://onlinelibrary.wiley.com/journal/15564029
- American Journal of Forensic Medicine & Pathology – https://journals.lww.com/ajfmp
- Forensic Science International – https://www.sciencedirect.com/journal/forensic-science-international
- Medico-Legal Journal – https://journals.sagepub.com/home/mlj

Fellowship in Toxicology

Course Overview

The Fellowship in Toxicology is a one-year specialized program designed to train healthcare professionals in the assessment, diagnosis, and management of toxicological emergencies. The course focuses on clinical toxicology, forensic toxicology, environmental toxicology, and analytical toxicology techniques. The program includes clinical rotations, laboratory training, and research projects.

Prerequisites

Criteria	Details
Eligibility	MBBS with MD/DNB in Pathology, Pharmacology, Forensic Medicine, or related fields
Duration	1 Year (Full-Time)
Mode of Study	Clinical, Theoretical, Hands-on Training
Assessment	Theory, Practical Exams, Clinical Logbook, Research Project

Course Objectives

- Develop expertise in clinical and forensic toxicology.

- Gain proficiency in toxicological screening and laboratory analysis.
- Learn to manage poisoning cases and toxic syndromes.
- Master the principles of antidote administration and supportive care.
- Understand occupational and environmental toxicology.
- Enhance decision-making skills in toxicological emergencies.
- Conduct research in toxicology and apply evidence-based practices.

Curriculum with Semester-wise Syllabus & Modules The one-year program is structured into two semesters, covering theoretical concepts, clinical training, and research.

Semester 1: Fundamentals & Core Toxicology

Module	Topics Covered
Principles of Toxicology	Toxicokinetics, toxicodynamics, dose-response relationships
Clinical Toxicology	Poisoning syndromes, antidotes, decontamination methods
Forensic Toxicology	Postmortem toxicology, drug abuse testing, legal aspects
Analytical Toxicology	Chromatography, mass spectrometry, biochemical markers
Clinical Rotations – Toxicology & Poison Control Centers	Hands-on experience in toxicology case management

Semester 2: Advanced Toxicology & Specialized Techniques

Module	Topics Covered
Environmental & Occupational Toxicology	Heavy metal poisoning, pesticide toxicity, industrial exposures
Neurotoxicology & Hepatotoxicology	CNS toxicity, liver toxicity, biomonitoring
Emergency Management of Toxicological Cases	Supportive care, ICU interventions, hemodialysis
Legal & Ethical Aspects	Regulatory toxicology, medico-legal documentation
Research Project & Case Studies	Literature review, forensic case reports, dissertation submission

Program Outcomes

Program Outcome	Description
Proficiency in Toxicology	Diagnose and manage poisoning cases with evidence-based approaches.
Expertise in Toxicological Analysis	Utilize laboratory methods for drug, poison, and toxin identification.
Advanced Clinical & Forensic Toxicology	Interpret toxicological findings in clinical and legal settings.
Environmental & Occupational Toxicology	Assess and manage industrial and environmental toxic exposures.
Research & Case Reporting	Conduct toxicology-based research and present forensic findings.

Course Outcomes

Course Outcome	Description
Clinical Toxicology Techniques	Diagnose and treat acute and chronic poisoning cases.
Analytical & Forensic Toxicology	Perform toxicological screenings and interpret laboratory reports.
Environmental & Industrial Toxicology	Assess chemical exposures and recommend safety measures.
Toxicology Case Documentation	Maintain medico-legal records and testify in court.

Credits & Assessment Methods

Total Credits: 40

Component	Credits
Theory & Lectures	10
Clinical Rotations & Case Studies	10
Hands-on Training & Procedures	10
Research & Dissertation	10

Assessment Pattern

Assessment Type	Weightage
Theory Examination (MCQs, Long & Short Answer)	30%
Clinical & Practical Exam (Case-Based Discussion, OSCE)	30%
Clinical Logbook & Case Reports	20%
Research Presentation & Dissertation	20%

Passing Criteria: Minimum 50% in each component to qualify.

Exam Pattern Theory Examination

- Section A (MCQs – 30 Marks)
- Section B (Short Answer Questions – 30 Marks)
- Section C (Long Answer Questions – 40 Marks)

Practical Examination

Component	Details	Marks
Clinical Case Presentation	Diagnosis & Management of Toxicology Cases	40
Analytical Toxicology	Lab Analysis & Interpretation	50
Poisoning Management	Supportive Care & Antidote Use	30
OSCE	Clinical Scenarios, Skill Demonstration	40
Industrial & Environmental Exposure Assessment	Risk Evaluation & Management	40

Viva Voce (Oral Examination)

(Total: 100 Marks)

Component	Details	Marks
Case Presentations	Discussion on Toxicology Cases	50
Recent Advances in Toxicology	Journal Article Discussion	20

Component	Details	Marks
Ethical & Legal Considerations	Regulatory & Forensic Toxicology	30

Research/Dissertation Submission (Total: 100 Marks)

Component	Marks
Originality & Scientific Merit	30
Methodology & Data Analysis	30
Presentation & Discussion	20
Conclusion & Clinical Relevance	20

Final Weightage & Passing Criteria

Exam Component	Total Marks	Minimum Passing Marks
Theory (Paper 1 & 2)	200	50% (100/200)
Practical Exam	200	50% (100/200)
Viva Voce	100	50% (50/100)
Dissertation	100	50% (50/100)
Total (Overall)	600	50% Aggregate Required

Additional Notes

- To pass the fellowship, a minimum of 50% marks in each section (Theory, Practical, Viva, and Dissertation) is required.
- **Distinction:** Candidates scoring 75% and above will be awarded "Distinction."
- **Failure in Practical or Viva:** If a candidate fails in the practical or viva, they must reappear for the failed component in the next examination cycle.

Recommended Books & E-Resources Textbooks:

- Casarett & Doull's Toxicology – Curtis Klaassen
- Clinical Toxicology – Frank A. Barile
- Goldfrank's Toxicologic Emergencies – Lewis S. Nelson
- Forensic Toxicology: Principles and Applications – Nicholas T. Lappas

Journals & E-Resources:

- Journal of Analytical Toxicology – https://academic.oup.com/jat
- Clinical Toxicology – https://www.tandfonline.com/journals/ictx20
- Toxicological Sciences – https://academic.oup.com/toxsci
- Forensic Science International – https://www.sciencedirect.com/journal/forensic-science-international