

## PG CURRICULUM

The three-year training programme for the MD degree is arranged in the form of postings to different assignments/laboratories for specified periods as outlined below. The period of such assignments/postings is recommended for 35 months. Posting schedules may be modified depending on needs, feasibility and exigencies.

Section/Subject Duration in months -

- (i) Surgical Pathology and Autopsy and Pathology Techniques 12
  - (ii) Haematology and Laboratory Medicine 10
  - (iii) Cytopathology 08
  - (iv) Transfusion Medicine/Blood Bank 02
  - (v) Museum techniques and record management 01
  - (vi) Basic Sciences including Immunopathology, Electron microscopy, Molecular Biology, Research Techniques and cytogenetics etc 02
- Total 35

### Topics for Seminars during the first year of Residency –

Every month a seminar is conducted on the following topics –

1. Microscope including electron microscopy
2. Importance of routine examination
3. Urine examination
4. Stool Examination
5. Iron deficiency Anaemias
6. Fixatives, staining and decalcification
7. Paraffin sections and staining
8. Gross pathology of Uterus
9. WHO slide seminar on salivary tumor
10. Glomerulonephritis
11. Role of oncogenes in diagnosis
12. WHO slide seminar on Thyroid tumors
13. PBF – Preparation and interpretation
14. ABO grouping and its interaction
15. Blood transfusion reactions
16. Lab diagnosis of Diabetes Mellitus
17. Current view in pathogenesis of Diabetes Mellitus
18. Lab diagnosis of Haemolytic Anaemia
19. Gross Pathology of Ovarian tumors
20. Bleeding disorders

### INVESTIGATIONS FOR 1<sup>ST</sup> YEAR RESIDENT

1. Blood collection
2. Hb estimation
3. TLC
4. TRBC
5. Plat
6. Platelets count
7. Eosinophil count
8. Automation in Haematology

9. ESR
10. PCV
11. PBF preparation
12. PBF staining
13. BT and CT
14. Urine Exam – Physical and chemical
15. Urine Exam – Microscopic
16. Stool Exam
17. Blood grouping
18. Rh typing
19. Donor screening
20. Drawing of Blood
21. Coombs testing
22. Gross Specimen – Histopathology
23. Tissue Processing
24. Block formation
25. Section cutting
26. FNAC technique

### **Topics for Seminars during the Second year of Residency –**

Every month a seminar is conducted on the following topics –

1. Autoimmune diseases, classification and Pathogenesis
2. IHC
3. Recent advances in Leukemia
4. Flowcytometry
5. Apoptosis
6. Slide seminar – cytology
7. Gross pathology of stomach
8. Coombs test
9. Leukemia
10. WHO slide seminar on Breast tumors
11. Slide seminar – Histopathology
12. Gross pathology of Intestine
13. HIV infection and AIDS
14. Investigation of AIDS patient
15. ELISA
16. Testicular tumors
17. WHO slide seminar – Testicular tumors
18. Recent advances – cytopathology of metastatic neoplasm
19. Slide seminar –Haematology slides
20. Benign soft tissue tumors
21. Malignant soft tissue tumors
22. Clasification of Lymphomas

### **LABORATORY INVESTIGATION FOR II YEAR RESIDENT**

1. Reticulocyte count
2. Bone Marrow Exqamination – Normal
3. Osmotic Fragility
4. Foetal Hb Estimation
5. LE cell preparation
6. Sickling test
7. Myeloperoxidase staining

8. PAS staining
9. Sudan black 'B' staining
10. PT
11. PTTK
12. H&E staining
13. Frozen section
14. PAP's smears
15. PAP's staining
16. Fluid smears preparation
17. CSF Examination
18. Sputum Examination
19. Bilirubin Estimation
20. Blood Glucose Estimation
21. Clot Retraction
22. Semen Analysis

### **Topics for Seminars during the Third year of Residency –**

Every month a seminar is conducted on the following topics –

1. FNAC and its role in diagnosis
2. Cytochemistry in Leukemias
3. WHO slide seminar on Bone tumors
4. Lab diagnosis – Thalassemias
5. Recent advances Haematology
6. Haemoglobinopathies
7. Radioisotopes and their use in Med. Science
8. Gross pathology of Heart
9. Recent advances – Histopathology
10. Slide Seminar – Cytology
11. Oncogene in Leukemias
12. Role of flow-cytometry in lymphoreticular Malignancies
13. Slide seminar – Haematology
14. WHO slide seminar – CNS tumors
15. Slide seminar Histopathology
16. Renal function test
17. Malabsorption syndrome
18. Hypertension
19. Recent advances – Histopathology
20. Current views in Viral hepatitis

### **INVESTIGATIONS FOR III YEAR RESIDENTS**

1. Serum iron estimation
2. Serum iron binding capacity
3. Serum vitamin B12 assay
4. Serum folate assay
5. Non-specific esterases
6. Synovial fluid Examination
7. Pleural fluid Examination
8. Pericardial fluid Examination
9. Serum protein estimation
10. Serum cholesterol
11. SGOT
12. SGPT

13. Serum creatinine
14. Uric acid estimation
15. Na and K estimation
16. Enzyme estimation, CPK, LDH, Alkaline and Acid Phosphatase
17. Special histopathology staining – PTAH, Masson's trichrome, VG, Reticulin, Verhoff's stain, Vanokossa stai
18. Electrophoresis Hb/ HPLC
19. Electrophoresis urine
20. Fibrinogen estimation
21. Oral GTT
22. Pregnancy function test
23. Renal function test
24. Thyroid function test

## ASSESSMENT

### FORMATIVE ASSESSMENT

Quarterly assessment during the MD training is based on:

1. Journal based / recent advances learning
2. Patient based /Laboratory or Skill based learning
3. Self directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and Outreach Activities / CMEs

**SUMMATIVE ASSESSMENT**, ie., assessment at the end of training

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.

Post Graduate Examination The Post Graduate examination is in three parts:- .

**1. Thesis:** Every post graduate student carries out work on an assigned research project under the guidance of a recognised Post Graduate Teacher, the result of which is written up and submitted in the form of a Thesis.

**2. Theory:** The examinations are organised on the basis of 'Grading' or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately are mandatory for passing examination as a whole. The examination for M.D./ MS are held at the end of 3rd academic year.

There are four theory papers-

Paper I: General Pathology, Pathophysiology, Immunopathology and Cytopathology

Paper II: Systemic Pathology

Paper III: Haematology, Transfusion Medicine (Blood Banking) and Laboratory Medicine

Paper IV: Recent advances and applied aspects

**3. Practicals/Clinical and Oral/viva voce Examination:**

The practical/clinical examination consists of the following and is spread over two days.

I. Clinical Pathology:

- Discussion of a clinical case history.
- Plan relevant investigations of the above case and interpret the
- biochemistry findings. Two investigations are performed including at least one
- biochemistry exercise/clinical pathology exercise like CSF, pleural tap etc. analysis and complete urinalysis.

II. Haematology: 16 Discuss haematology cases given the relevant history. Plan relevant investigations

- Perform complete hemogram and at least two tests preferably including
- one coagulation exercise

Identify electrophoresis strips, osmotic fragility charts etc. Interpretation of data from autoanalysers, HPLC and flow cytometry. Examine, report and discuss around ten cases given the history and relevant blood smears and/or bone marrow aspirate smears and bone marrow biopsy interpretation.

III. Transfusion Medicine: Perform blood grouping

- Perform the necessary exercise like cross matching.
- Coomb's test, gel cards interpretation.

IV. Histopathology: Examine, report and discuss 12-15 cases histopathology and 5-8 cytopathology cases, given the relevant history and slides. Perform a Haematoxylin and Eosin stain and any special stain on a paraffin section. Should be conversant with histopathology techniques including cryostat.

V. Autopsy: Given a case history and relevant organs (with or without slides), give a list of anatomical diagnosis in a autopsy case.

VI. Gross Pathology Describe findings of gross specimens, give diagnosis and identify the sections to be processed. The post graduate student should perform grossing in front of the examiners for evaluation.

An oral question-answer session should be conducted at the end of each exercise.

- a) Viva on dissertation and research methodology
- b) General Viva-Voce

**Recommended Reading: Books (latest edition)**

1. Rosai and Ackerman's Surgical Pathology
2. Atlas and Text of Haematology by Tejinder Singh
3. Orell's Atlas of Aspiration Cytology
4. Lever's Dermatopathology
5. Novak's Gynecologic and Obstetric Pathology with Clinical and Endocrine Relations by Edmund R. Novak
6. Bone Pathology by H. Jaffe
7. MacSween's Pathology of the liver
8. Iochim's Lymph Node Pathology
9. Text Book on Breast Pathology by Tavasoli
10. Text Book on Thyroid Pathology by Geetha Jayaram

11. Theory and Practice of Histological Techniques by Bancroft
12. Gray's Diagnostic Cytopathology
13. Sternberg's Diagnostic Surgical Pathology
14. Dacie's Practical Haematology
15. Wintrobe's Haematology
16. Heptinstall's Pathology of the Kidney
17. Enzinger's Soft Tissue Tumours

### Postgraduate Students Appraisal Form

Pre / Para /Clinical Disciplines

Name of the Department/Unit :

Name of the PG Student :

Period of Training: FROM.....TO.....

Sr. No.	Particulars	Not satisfactory	Satisfactory	More than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1)	Journal based / recent advances learning				
2)	Patient based /Laboratory or Skill based learning				
3)	Self directed learning and teaching				
4)	Departmental and interdepartmental learning activity				
5)	External and Outreach Activities / CMEs				
6)	Thesis / Research work				
7)	Log Book Maintenance				

Publications

Yes/

No

Remarks\* \_\_\_\_\_  
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\*REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended. SIGNATURE of ASSESSEE SIGNATURE OF CONSULTANT SIGNATURE OF HOD