



**DEPARTMENT OF PATHOLOGY  
DR B BOROAH CANCER INSTITUTE**

**Curriculum for DM in Oncopathology**

**PREAMBLE:**

**SUBJECT SPECIFIC LEARNING OBJECTIVES & COMPETENCIES**

Competency based Post graduate training programme for DM in Oncopathology aims to produce an Oncopathologist who after completion of training programme should be able to offer adequate and timely histopathology and cytopathology laboratory support services and be able to work as a part of multidisciplinary team for overall management of patients with malignancies. The student should know his/ her limitations and be able to communicate the same to other members of medical team managing the patient. The student should also be

able to decide on the point of referral .In addition, the student should be involved actively in quality management process of pathology laboratory.

**At the end of the three year course the student should be able to acquire the following competencies under the three domains:**

**A. Cognitive domain (Knowledge domain)**

The student should have sufficient knowledge about the spectrum of clinical presentation of the disease process, imaging findings in the patient , organs or sites likely to be involved, macroscopic appearance , spectrum of microscopic appearance with respect to histologic types, type of biopsy or excision, stage of the disease , stromal response etc. The student should be able to observe all the features meticulously and interpret them to generate the final diagnosis or differential diagnosis taking into consideration clinical presentation, imaging findings and macroscopic examination. These are time tested morphological skills.

Over the years, the diagnostic oncopathology has grown with leaps and bounds and extended beyond morphology. The diagnostic armamentarium today includes many advanced ancillary techniques like immunohistochemistry, FISH, molecular techniques ,flow cytometry etc. These tests are complex and require hands-on- training of significant duration. These tests not only help in diagnosis and prognosis but also in personalization of therapy by detecting the actionable target. The student should have sufficient knowledge and experience about the various histopathology techniques and ancillary techniques to be employed in a given case to confirm the diagnosis and to know the prognosis.

**B. Affective domain (Attitudes including Communication and Professionalism)**

The student should be confident in offering clear, concise and accurate histopathological and cytopathological diagnosis, at the same time, should know his/her limitations and limitations due to the unsatisfactory material provided to him/her. The student should be able to pinpoint the issue and communicate the same to other members of multidisciplinary team managing the patient in clear and professional language.

The student should be able to recommend specific additional tests, necessary for attaining the final diagnosis. The student should be able to discuss diagnostically challenging cases with

his/her departmental colleagues and reach consensus diagnosis. The student should also be able to decide on the point of referral in challenging cases.

### **C. Psychomotor domain**

1. The student trained in DM Oncopathology should be able **to work in public or private pathology laboratories** doing specialised testing for Oncopathology cases. That means the student should be able to sign out each and every histopathology & cytopathology report independently using Immunohisto and cytochemistry as an ancillary technique

- The student should be able to report independently on frozen sections intra-operatively which is necessary for decision making.

-The student should be able to perform under supervision the advanced ancillary techniques like molecular pathology and flow cytometry.

2. The student trained in DM Oncopathology should be able to work **as teacher in Medical college** departments, teaching oncopathology and also sign out in-house or referred cancer related cases.

3. The student trained in Oncopathology can pursue **career in research in oncopathology**.

## **SYLLABUS**

### **A. Course contents:**

The program has been designed to give the student comprehensive training in laboratory service of oncology, to enable him/her to follow a subsequent career pathway in either academic or community oncology.

The curriculum of three years in training in DM Oncopathology includes-

- 1. Theoretical knowledge in the subject**
- 2. Practical, clinical & technical skills**
- 3. Writing Project /Research articles**
- 4. Interpersonal relationship and communication skills.**
- 5. Training in Research Methodology, Medical Ethics and Medico- legal aspects**

**Selection of a candidate for the course of DM oncopathology will be on the basis of NEET conducted by MCI. In addition to standard written test, a personal interview will be held to judge the mental framework and capacity of the student to go through the course.**

## **1. Theoretical knowledge**

The course content for Theoretical knowledge and the teaching faculty is under following heads-

- Basic anatomy, embryology, physiology, histology and immunophenotype of normal histologic tissues of different systems – Dr Lopa Mudra Kakoti
- Basic cell biology, carcinogenesis and molecular pathways – Dr Shiraj Ahmed
- Proto-oncogenes and Tumor Suppressor Genes in Malignancies- Dr J D Sharma
- Grossing protocols of all common oncosurgical specimens and guidelines for handling all other specimens. Protocols for obtaining tissues for ancillary methods- Dr Lopa Mudra Kakoti
- Parts, working and quality assurance of important instruments like light and fluorescent microscopes, tissue processor, microtome, cryostat, immunohistochemistry staining set-up (manual and automated), flow-cytometer, PCR and nucleic acid sequencers -Dr Shiraj Ahmed
- Types of fixatives, reagents in tissue processing, routine stains, histochemical stains and molecular techniques\_ Dr J D Sharma
- Immunohistochemistry principles, basics, methods,[ manual,automated] trouble shooting and quality assurance- Dr J D Sharma
- Frozen section: principles, technique, stains, artifacts, indications& pitfalls- Dr J D Sharma
- Principles, quality control and interpretation of data from automated cell counters- Dr Shiraj Ahmed
- Bone marrow aspiration: technique, staining, interpretation and pitfalls- Dr Anupam Sarma
- Flow cytometry – principles and applications in various malignancies- Dr Anupam Sarma
- Basic principles of molecular techniques and applications- Dr Anupam Sarma
- Knowledge of evidence based guidelines and principles in disease management- Dr J D Sharma

Following topics are included in systemic pathology

- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Head and neck, including recent advances – Dr Lopa Mudra Kakoti
- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Breast, including recent advances- Dr Shiraj Ahmed
- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Gastrointestinal tract, including recent advances- Dr J D Sharma

- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Lung, mediastinum and pleura, including recent advances - Dr Lopa Mudra Kakoti
- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Female genital system, including recent advances - Dr Shiraj Ahmed
- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Male genital system, including recent advances- Dr J D Sharma
- Etio-Pathogenesis,diagnostic approach and work up of benign and neoplastic diseases of Soft tissues, including recent advances - Dr Anupam Sarma
- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Bone, including recent advances - Dr Lopa Mudra Kakoti
- Etio -Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Hematolymphoid organs, including recent advances - Dr Anupam Sarma
- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Urinary tract, including recent advances - Dr Shiraj Ahmed
- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Endocrine organs, including recent advances - Dr J D Sharma
- Etio-Pathogenesis and diagnostic approach and work up of benign and neoplastic diseases of Pediatric age group, including recent advances - Dr Anupam Sarma
- Etio-Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Central nervous system, including recent advances- Dr Anupam Sarma
- Etio- Pathogenesis, diagnostic approach and work up of benign and neoplastic diseases of Skin, including recent advances - Dr Anupam Sarma
- WHO classification of tumours- Dr Shiraj Ahmed
- AJCC/TNM classification of cancer- Dr Lopa Mudra Kakoti
- Bone marrow and liver transplantation- Dr Anupam Sarma
- HLA and Transplant immunology- Dr J D Sharma
- Research methodology- Dr J D Sharma
- Quality management system including quality control, quality assurance and quality indicators in laboratory medicine- Dr Shiraj Ahmed
- Laboratory accreditation- Dr Shiraj Ahmed
- Safety in laboratory practices- Dr Lopa Mudra Kakoti
- Bio- banking or tumor tissue repository- Dr Anupam Sarma
- Medico-legal aspects and ethical guidelines in oncopathology.- Dr Anupam Sarma

## **2. Practical clinical & technical skills**

The student should be able to do the following in cognitive and psychomotor domain.

- Grossing of all types of oncopathology tissue specimens with adequate tissue sections
- Interpretation and diagnosis of routine and complex clinical problems and various tests under the domain of oncopathology

- Interpret and integrate clinical and laboratory data with reasonable accuracy.
- Correlate and advise further on relevant pathology data such that various clinical aspects of diseases can be correlated and discussed.
- Staining and quality control of Hematoxylin and eosin, Papanicolaou, Giemsa and other Romanowsky stains
- Staining, standardization and quality control of Histochemical stains (including mucicarmine, alcian blue, reticulin, Periodic acid Schiff, Pearls Stain, Ziel Neelson stain, Gomory methanamine silver, Elastic Van Geison, Masson Trichrome stain, PTAH, myeloperoxidase, Nonspecific Esterase, Toluidine blue stain & Congo Red stain).
- Prepare and stain peripheral blood smear, bone marrow aspiration smear, FNAC, imprint cytology and squash cytology smear.
- Perform Bone marrow aspirate and biopsy Test, stain and interpret
- Learn Tissue processing techniques and quality control
- Performing Fine needle aspiration (FNA), and preparing smears.
- Performing on-site adequacy testing for image guided biopsies.
- Processing all types of cytology specimens
- Freezing and cutting frozen section on freezing microtome
- Standardization and validation of newer antibodies and quality assurance in IHC lab.
- Staining and interpretation of immunohistochemistry
- Processing and staining of flow cytometric specimens
- Extraction of Nucleic acids from blood, bone marrow and cytology specimens.
- Extraction of nucleic acids from Formalin fixed paraffin embedded tissues.
- Interpretation of RT-PCR, FISH and DNA sequencing.
- Familiarity with the function, handling, routine care and maintenance of equipment in the laboratory
- Teaching oncopathology to postgraduates, nurses and paramedical staff including laboratory personnel.
- Supervising work of subordinate laboratory staff and colleagues.
- Initiate research questions and systematically study to get an answer. Then write or present a paper and publish in a peer reviewed journal, national or international.
- Be aware of quality control, bio-safety and waste disposal issues in a laboratory.
- Constantly update knowledge of recent advances in oncopathology and allied subjects.
- Standard Oncopathology report which mentions
- Type of carcinoma, grade of carcinoma, maximum tumour size, maximum depth of invasion, stromal response, Lymphovascular emboli, peri-neural invasion, pattern of invasion, cut margin status, any second lesion, lymph node metastasis, extra-nodal spread.

### **3. Writing project /Research articles**

- Identification of important peer reviewed journals.

- Demonstrate ability to search literature for information
- Evaluate levels of evidence in literature
- Demonstrate ability to critically evaluate published studies
- Demonstrate ability to detect an unmet need in the department and design, plan and do a research study based on the need
- Demonstrate ability to take informed consent before procedures.
- Demonstrate ability to perform an audit of procedures.
- Submission of Thesis/Dissertation.

#### **4. Inter-personal relationship and communication skills.**

- Understanding of importance, confidentiality and criticality of the laboratory tests and reports
- Demonstrate objectivity in interpretations of morphology
- Understand one's limitations in interpretation of tests and knowledge and to communicate the same to patients and colleagues as required
- Give importance to patient safety and safety of staff in the laboratory.
- Demonstrate skills in teaching junior staff, laboratory workers and medical colleagues
- Demonstrate effective communication skills in explaining reports to patients, delay in reports and counseling them if necessary including disclosure of laboratory errors
- Demonstrate effective communication skills in interacting with clinician and multidisciplinary team members in difficult cases
- Demonstrate capability to work in a team and avoid communication breakdowns.
- Understanding of managerial and administrative responsibility of laboratory in general and specially in case of untoward incidents.
- Demonstrate team spirit and leadership skills in managing laboratory.
- Ability to perform root cause analysis of critical incidents occurring in laboratories in technical and interpretative processes .
- Understand importance of maintaining and improving quality in pre-and post analytical phases.

#### **5. Training in Research Methodology, Medical Ethics and Medicolegal aspects**

- Training in study design, power analysis, data collection and defining outcome measures
- Training in descriptive statistics and inferential statistics
- Understanding privacy and confidentiality of patient data.
- Adopting ethical practices in conducting research.

### **B. Teaching and Learning Methodology:**

Various Teaching and Learning Methodology include:

**Formal Teaching:**

- a) **Journal Club:** 1 hour duration - Paper presentation/discussion - once per week.
- b) **Seminar:** One seminar on Pathology of standard lesions from one system every week of one hour duration (Afternoon) covering all common lesions during the tenure.
- c) **Lecture/discussion:** Lectures on newer topics by faculty of one hour duration, in place of seminar as per need.
- d) **Case conference:** 3<sup>rd</sup> year students are expected to work up any one long case and 2<sup>nd</sup> & 1<sup>st</sup> year students to work up 2 short cases and present the same to all pathology faculty members and discuss at length the diagnosis, tumour biology and management.
- e) **Gross specimen meeting : once a week**
- f) **Clinico-pathological Conference:** once a fortnight Residents will present a current clinical case before multi-disciplinary faculty in JMDC and participate at discussions pertaining to its surgical pathology, radiology, staging and multi-modality management.
- g) **Debate on controversial topics in pathology:** once in 3 months [2<sup>nd</sup> year residents versus 3<sup>rd</sup> year residents]
- h) **Combined Round/Grand Round:** These exercises are to be done for the entire hospital staff once or twice a month involving presentation of unusual, difficult or complex cases. Presentation of cases in combined / grand rounds benefits clinicians and other related Disciplines. CD of presentations should be made and archived
- i) **Daily extempore discussion** of interesting case reported that day for 20 to 30 min in the evening by fellows /faculty on emergency duty,
- j) **Discussion on interesting Frozen section** seen on each day for 10 min.
- k) **Once a month discussion on audit of any procedure or test**
  - l) The student shall be required to participate in the teaching and training programme of students, interns and nursing staff
- m) **Should have attended two conferences/CMEs/Workshops during his/her tenure.**

**Training schedule over 36 months**

Sr. No.	Rotation to specialty / name of service	Duration
1.	Grossing of specimens	2 month
2.	Frozen section lab and Bio- banking	2 month
3.	Surgical Pathology, cytopathology, IHC, Molecular pathology, organ specific training*	18 months



4.	Techniques in Immunohistochemistry and histopathology lab, including histochemistry	3 months
5.	Techniques in Molecular pathology lab	3 months
6.	Techniques in Cytopathology lab	2 months
7	Hematology lab	3 months
8	Research project /Thesis	3 months

**\* The postings include rotation through all sub-specialties and encompasses training in surgical pathology, FNAC, exfoliative cytology and molecular pathology reporting related to each sub-specialty where student learns the comprehensive approach to diagnosis.**

The student shall attend joint-clinics and academic meetings of the sub-specialty in which he/she is posted. Resident shall present a small study at DMG or sub specialty academic meetings at least 4 times a year

The resident shall complete a minimum of one Institute ethics committee (IEC)-approved project/thesis during his/her tenure under the guidance of his/her teacher.

Project/ thesis plan shall be submitted to IRB in the prescribed format within the first 4 months of joining the course. Approval of IEC is compulsory. The entire technical and analytical work implied in the thesis plan should be carried out by the student himself under the supervision of the guide. The thesis should be completed and submitted in the December of the last year.

The student shall be trained in Good Laboratory Practices throughout his/her tenure.

### **C. Assessment:**

Assessment would comprise of (I) Formative Assessment during residency program and (II) Summative Assessment at the completion of training.

(I) **Formative Assessment** (Total score- 200 Marks): This will have two parts-

A) ***Appraisal*** (at the end of two years) (Maximum score - 100)

The assessment shall consist of a combination of Structured MCQ and Short answers [50 marks] There shall be in addition assessments by faculty for teaching ability, interpersonal communication skills and professionalism [50 marks].

B) ***Academic assessment*** (over 3 years' course period) (Maximum score – 100)

- 10 points for each publication [ other than a case report] in a peer reviewed journal during the 3-year course.

- 5 points for publication of a case report as a principal author in a peer reviewed journal

- 5 points for each state, national conference or major hospital presentations

- 10 points for each national conference paper presentation in award session

- 10 points for each international conference presentations

- 5 points for each Case based analysis/ interpretation for morphology and approach

- 5 points for receiving an award

There shall be regular appraisal and feedback to the teachers for the formative assessments. Candidate with a minimum of 40 % score [80 marks] in the internal assessment will be allowed to appear in the Final examination.

(II) **Summative Assessment** shall be at the end of training of 3 years and shall consist of

1. Theory evaluation
2. Practical Skill evaluation

**Theory evaluation:** shall consist of 4 papers of 100 marks each

Paper I – Basic sciences and Principles of laboratory techniques

Paper II – Systemic Oncopathology I (Breast, Hematolymphoid, Bone and soft tissues, neuro oncopathology, paediatric oncopathology and endocrine pathology)

Paper III – Systemic Oncopathology II (Head Neck, gastrointestinal, thoracic, Urologic, male genital and female genital tract)

Paper IV - Recent advances in Oncopathology

**Practical Skill Evaluation:** Shall consist of following components (total 600 Marks):

1. Histopathology slides (250 Marks)
2. Cytology and Haematology slides (150 Marks)
3. Clinicopathological exercises (25 Marks)
4. Spots (25 Marks)
5. Gross (25 Marks)
6. Lab technique ; One technique selected from Histopath, cytopath, heampath and molecular path (25 Marks)
7. Evaluatulation of Thesis/Project : (50 Marks)
8. Viva Voce (50 Marks)

The Final Assessment shall have a component from Formative assessments [200 marks] and Component from Summative Assessment [1000 marks] with total marks of 1200.

Minimum 600 marks [with individual passing in theory and practicals] need to be obtained for successfully passing the qualifying examination.

#### **D. Log Book:**

Postgraduate students shall maintain a log book of the work carried out by them and the training programme undertaken during the three year period of training including number of surgical pathology cases and number of Frozen sections reported with faculty on multiheaded microscopes, details of training schedules etc. The log book shall be checked and assessed periodically and signed by the faculty members imparting the training.

\*\* The curriculum, teaching and learning methodology and assessment methods shall be reassessed and reviewed every year.

\*\* General counseling of the student by senior faculty other than his/her guide at the end of first and second year as a part of mentorship.

#### **Recommended Reading:**

## Books and journals

Sr.No	Title	Author	Publisher	Latest Ed
1	Robbins and Cotran Pathologic basis of Disease (Int Ed.)	Kumar, V	Elsevier	9th
2	Anderson Pathology	Damjanov	CV Mosby	10th
3	General Pathology	Walter	Churchill Livingstone	7th
4	Symmers systematic pathology	Symmer	Churchill Livingstone	2nd
5	Rosai Ackerman Surgical Pathology	Rosai Juan	C V Mosby	10th
6	Diagnostic cytology and its histopathologic basis	Koss	LWW	5th
7	Comprehensive Cytopathology	Bibbo	WB Saunders	4th
8	Diagnostic cytopathology	Gray, W	Churchill Livingstone	4th
9	Orell and Sterrett Fine needle aspiration cytology	Orell	Churchill Livingstone	5th
10	Wintrobe's Clinical Haematology	Greer	LWW	13th
11	Gruchy's clinical haematology in medical practice	Firkin	Blackwell	5th
12	Clinical diagnostics and management by laboratory methods	Henry, j.B	WB Saunders	23rd
13	Dacie& Lewis practical Haematology	Lewis, SM	Churchill Livingstone	11th
14	Postgraduate Haematology	Hoffbrand, AV	Blackwell	7th
15	Theory & practice of histological techniques	Bancroft	Churchill Livingstone	7th
16	Soft tissue tumors	Enzinger& Weiss	CV Mosby	6th
17	Lever's histopathology of skin	Elder	LWW	11th
18	Novak's gynecologic and obstetrics pathology	Novak	Saunders	8th
19	Diagnostic Histopathology of tumors	Fletcher	Churchill Livingstone	4th
20	Recent advances in histopathology,	David Lowe, James Underwood	Churchill Livingstone	18
21	AFIP, Atlas of tumour pathology	Armed Forces Institute of Pathology,(U.S.),	American Registry of Pathology,	4th series
22	Neuropathology	Ellison	Mosby	3rd
23	Prostate biopsy interpretation	Epstein	LWW	4th
24	Morson& Dawson's Gastrointestinal pathology	Neil Shepherd	Wiley-Blackwell	5th
25	Pathology of urinary bladder	Foster	Saunders	Illustrated
26	Obstetrics and gynaecological pathology	Fox	Churchill Livingstone	5th
27	IochimLymphnode pathology	Iochim	LWW	4 <sup>th</sup>
28	Diagnostic musculoskeletal surgical pathology	Kilpatrick	Saunders	Illustrated

29	Blaustein pathology of the female genital tract	Kurman	Springer	4 <sup>th</sup>
30	Practical pulmonary pathology: a diagnostic approach	Leslie	Churchill Livingstone	2 <sup>nd</sup>
31	Pathology of liver	Macsween	Churchill Livingstone	6 <sup>th</sup>
32	Sternbergsdiagnosticsurgical pathology	Mills	LWW	5 <sup>th</sup>
33	Biopsy interpretation of the gastrointestinal tract mucosa vol 1&2	Montgomery, EA	LWW	2 <sup>nd</sup>
34	Surgical pathology of the GI tract liver, biliary tract	Odze	Saunders	2 <sup>nd</sup>
35	Pathology of gall bladder, biliary tract and pancreas	Owen	Saunders	Illustrated
36	Head and neck surgical pathology	Pilch	LWW	1 <sup>st</sup>
37	Pathology of breast	Rosen	LWW	3 <sup>rd</sup>
38	Atlas of breast pathology	Silverberg	Saunders	Illustrated
39	Skin Pathology	Weedon	Churchill Livingstone	4 <sup>th</sup>
40	Blood and marrow pathology	Wickremsinghe	Churchill Livingstone	3 <sup>rd</sup> illustrated
41	Atlas of diagnostic cytopathology	Atkinson	Saunders	2 <sup>nd</sup>
42	Cytology: diagnostic principle and clinical correlates	Cibas	Saunders	4 <sup>th</sup>
43	Modern cytopathology	Geisinger	Churchill livingstone	Illustrated
44	Cytopathology	Naib	Little Brown and Co.	4 <sup>th</sup>
45	Diagnostic soft tissue pathology	Miettinen	Churchill Livingstone	Illustrated
46	Pathologic disease of fungal infection	Chandler	ASCP	
47	Paediatric Haematology	Collins	Churchill Livingstone	
48	Haematology: basic principles and practice	Hoffman	Churchill livingstone	3 <sup>rd</sup>
49	Atlas of bone marrow and blood pathology	Naeim	Saunders	Illustrated
50	Paediatric pathology	Colin Berry	Springer Verlag	2 <sup>nd</sup>
51	WHO classification of Tumors	IARC press	IARC	4 <sup>th</sup> Ed
52	Pathology of urinary and male genital system for urologists general surgeons...	Chitale	B.I. Publications	
53	Transfusion medicine technical manual	Saran	WHO	2 <sup>nd</sup>

## JOURNALS:

1. Acta-Cytologica, The Journal of Clinical Cytology and Cytopathology. Karger
2. American Journal of Clinical Pathology ASCP Oxford University Press
3. American Journal of Surgical Pathology, Lippincott & Raven
4. British Journal of Haematology, Blackwell Sciences.

5. Cancer, International journal of American Cancer Society, John Wiley&Sons
6. Cancer cytopathology. Wiley
7. Journal of cytology, publication of Indian Academy of Cytologists
8. Hematology/Oncology Clinics of North America, W.B. Saunders &Company.
9. Indian Journal of Pathology & Microbiology, Wolters Kluwer - Medknow
- 10. Indian Journal of Cancer,publication of Indian Cancer Society and Indian Society of Oncology.**
11. Lancet Elsevier
12. Histopathology, journal of the British Division of the International Academy of Pathology- Blackwell Science
13. Archives of Pathology and Laboratory Medicine,**publication** of the College of American Pathologists
14. Human Pathology- W.B. Saunders & Company.
15. Modern Pathology. , Nature **Publishing** Group.
16. New England journal of Medicine : NEJM group
17. Seminars in diagnostic pathology, Elsevier

## Postgraduate Students Appraisal Form (Suggested)

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.	Publication				
7.	Thesis / Research work				
8.	Log Book Maintenance	0	4 5 6	7 8 9	

Remarks\* \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**\*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. Follow-up is recommended in case of negative attributes

SIGNATURE OF ASSESSEE

SIGNATURE OF CONSULTANT

SIGNATURE OF HOD