

No - 1385
Date - 10/12/2020

Through Proper Channel

To,
Academic Council/*Dean, Medical*
KGMU, Lucknow.

17.12.2020



**Subject: Request to permit PDCC Oncosurgical Pathology
Department of Pathology, KGMU**

Dear Sir,

This is to bring to your kind notice that Department of Pathology is conducting cancer pathological examination of more than 18000 specimens annually, catering to multiple oncology specialties.

We are equipped adequately to start Oncosurgical Pathology as per Institute of Pathology guidelines in our department. Kindly provide approval for the same.

We request for 2 students to be enrolled under this course per year for one year course. These students will be serving on the post of Senior Resident in University and provide their services as per university rules. Additionally they will learn Oncosurgical pathology as per the curriculum attached.

The above has been approved by the departmental academic council held on 15/12/2020. Necessary documentation is being attached with this letter for your kind perusal and action.

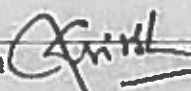
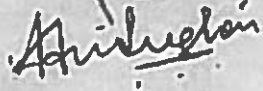





Thanking you,
Yours sincerely,

U.S. Singh
Dr. U.S. Singh,
Professor and Head,
Department of Pathology, KGMU.

Attachments:

1. Course details

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Name of course	Post Doctoral Certificate Course (PDCC) in Oncosurgical Pathology USSV
Course Director	Prof. U.S. Singh, Professor and Head, Department of Pathology, KGMU, Lucknow
Faculty In-charge	Dr. Preeti Agarwal/ Dr. Sumaira Qayoom 201.
Co Faculty In charge	
Department of Pathology	Prof. Ajay Km Singh  Dr. Atin Singhai  Dr. Wahid Ali  Dr. Mala Sagar Dr. Riddhi Jaiswal Dr. Madhu Kumar  Dr. Malti Kumari Maurya  Dr. Mili Jain Dr. Shivanjali Raghuvanshi Dr. Shalini Bhalla 
Department of Surgical Oncology	Prof. Vijay Kumar  Prof. Sameer Gupta
Department of Radiodiagnosis	Prof. Anit Parihar Dr. Sukriti Kumar
Department of Radiotherapy	Prof. Kirti Srivastava Dr. Mrinalini Verma

Name of the Course: Post Doctoral Certificate Course (PDCC) in Oncosurgical Pathology

Introduction:

King George's Medical University and Gandhi Memorial and Associated Hospitals (GM&AH) is a tertiary care 4500 bedded hospital providing service to not only patients from Uttar Pradesh but also from other states and neighbouring countries. In the recent years, the concept of specialisation/ sub-specialisation has emerged in almost all disciplines of medicine throughout the world. We all know that the Oncology is a major component of modern medicine and Cancer is a new Epidemic. Malignancies are on rise both in developed and developing countries, especially after recent advances in diagnostic and evaluative techniques. Correct diagnosis with identification of both prognostic and predictive factors by the Reporting pathologist not only provides diagnosis but also guides the treatment of the patients. We still have a wide Gap of specialized pathologists which cater to this new specialty and hence will help in management of the patients.

So far, only few separate training programs on oncopathology exists in India. The problem of Oncopathology being taken a new dimension, there is a need to implement a well-planned structured course in the form of PDCC (Oncopathology). Accordingly the details of curriculum are being formulated to place before the Board of Studies.

Aim:

The aim of the course is to train pathologists so as to provide a well-supervised expertise in the field of Oncopathology.

Objectives:

1. To create experts who can diagnose and stratify the patients with cancers. (This includes specific classification and prognostication of cancers).
2. To develop laboratory skills to carry out and report on investigations in patients with neoplastic disorders including the unusual one.
3. To promote the importance of excellence in teaching and research in cancer.
4. To provide thorough knowledge about the epidemiology, screening and mass awareness measures for cancers.

Need for the course:

With the advent of molecular diagnostics, further revisions of classifications and newer modalities and drugs in cancer control and treatment correct diagnosis, classification and identification of important histomorphological parameters are becoming more essentials. The situation is becoming worse day by day with misdiagnosis provided which leads to incorrect treatment and spreading of the malignancy.

Advances in classification and molecular genetics have occurred during the last decade. But the knowledge needs to be translated into action, there must be centers to train desired manpower for appropriate diagnosis and classification. The persons trained in the field should know the details of the prevalent cancers, their pathogenesis, molecular mechanisms and community awareness initiatives as well as about screening modules and models available to carry on further research. All the major countries of the World have centers for oncopathology as separate entity where

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oncopathologists are the part of the team which manage the patients with neoplasia. Malignancies being a major killer in the developing world including India, there is a need to create experts in the field.

The proposed course of one year post MD training will be targeted for the senior residents/young faculty members/state medical doctors and will train them in diagnosis and reporting samples of patients with cancers. The super specialty nature of our University will suit to start the above course in order to meet the challenges of Oncopathology. Having the basic knowledge of Pathology, the trainees will be able to tackle the problems of cancer diagnostics including the precise reporting and molecular diagnostics in a precise way.

Infrastructure available:

The Combined Department of Pathology and Bacteriology was started in 1913 under the chairmanship of Lt. Col. H. J. Walton. The course of MD (Pathology) was started in 1918. Lt. Col. H Stott made special contributions in assembling the museum, which is one of the best in the country. In 1960 the department was upgraded by the central government to provide enhanced facilities for postgraduate training and research. During the 1970's remarkable developments took place leading to the creation of various subspecialty laboratories housed in the newly expanded building.

Since the inception, the department is catering clinical and pathological diagnostic services. The department is also involved in research as per needs of the University, society and the country. All modern diagnostic facilities on oncopathology are available. All the disciplines/ sub specialties of pathology are fully functional to meet the training program of PDCC (Oncopathology). The disciplines like surgical oncology, surgery, obstetrics/gynaecology, orthopaedics, clinical hematology, ENT, Endocrine surgery, Urology, oral surgery and other super specialties already exist to meet the requirement for the training. The dept. of Pathology has been running M.D. (Pathology) and PhD programmes since 1960.

Proposed Course:

1. **Name:** Post Doctoral Certificate Course (PDCC) in Oncopathology.
2. **Duration:** One year.
3. **Number:** Two students per year
4. **Eligibility:** The course is open for candidates holding the following degrees- MD (pathology) from a MCI recognized Institution. Age limit 35 years. Relaxation as per University norms.
5. **Mode of Selection:** Through all India open entrance test/sponsored candidates. Reservation as per University norms.
6. **Selection process:** Selection process will start through an all India advertisement. The entrance examination will be held in Nov/Dec for course starting in Jan of the next year. The examination will have written test. The written examination will be based on multiple-choice questions drawn from Pathology to Medicine in relation to Oncopathology. Candidates will be offered seat based on merit. This will follow the University's rules applicable to other PDCC courses.
7. **Posting:** 10 months in Department of Pathology including rotational postings to Histopathology, Cytopathology, Lymphoma and Leukemia (LL)

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- Laboratory, Neuropathology Laboratory, Clinical chemistry, Molecular, Cytogenetics and Immunohistochemistry Laboratory. 30 days in Surgical Oncology department, 15 days each in Radiotherapy and Radiodiagnosis each.
8. **Course Faculty:** Faculty of Pathology, Radiotherapy, Radiodiagnosis and Surgical Oncology disciplines.
 9. **Requirements:** Two additional faculties for the course (one each in Surgical oncology and radiotherapy) in addition to existing faculty of Pathology.
 10. **Tuition fees:** As per academic Board decision.
 11. **Academic & Teaching Activities:** Each candidate is expected to participate in journal clubs, seminars, group discussion, case discussion, Interdepartmental Clinio-pathological meets, morbidity-mortality meeting and combined grand round (CGR). In addition, candidate will have to complete two internal assessment of the University before the examination.
 12. **Evaluation:** The candidates are expected to maintain a logbook of 100 cases reports of the patients diagnosed and treated for malignancies in the KGMU. In addition, each candidate will undergo laboratory assessment periodically (after each semester) by the faculty of the department following University procedure in this regard. The result of the internal assessment will be made available to the examiners at the time of examination. At the end of 12 calendar months there will be a certifying examination according to rules laid down by ICP:

Final Examination –under ICP

Theory: 2 papers of 100 mark each. (averaged to 100 marks)

- Paper 1 – General Pathology and systemic tumor Pathology
- Paper 2 - Recent advances in Tumor Pathology (including Molecular Pathology) (100marks)

Practical examination will consist of Practical & Viva voce. (300 marks)

Modules:

- Slide test: short (include cytology cases) and Long cases(include IHC slides) Frozen examination
- Grossing examination
- Viva Voce

Evaluation will be done by

2 examiners

1. 1 Internal Examiner
2. 1 External Examiner

1 Theory – 100 marks

Practical and VIVA – 300 marks

Total - 400 marks

In order to qualify, the candidate must score 50% in the theory and practical separately.

13. Examiners: University rules will be followed in this regard. In brief, there will be one external examiner and 1 internal examiner.

Course Content:

1. Core Unit

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The course consists of 3 semesters of 4 months each. All semesters have intensive course of lectures, clinical and practical demonstration.

Semester 1

Basic Knowledge: The surgical Pathology with the principles of Neoplastic disease grossing and diagnosis along with knowledge of prognostic and predictive variables. This will consist of basic reading of surgical pathology and its application in morphological diagnosis. Designing and interpretation of required Immunohistochemical panel. Interpretation of serological variables related to cancers. This will provide the knowledge to interpret the basic laboratory/ histological/ immunohistochemical data in respect to the oncology. The details in annexure-1.

Semester 2

Clinical exposure: Along with ongoing pathology department learning the resident will be exposed to surgical oncology, radio diagnosis and radiotherapy principles. Here they would learn radiological correlations, clinical diagnosis and management and understand the importance of histopathology with respect to patient outcome. It is an intensive course consisting of lecture and practical demonstration of cancer diagnosis and prognostic variables and many related fields. This topic includes: audit, designing and review of ancillary techniques applied, aspects of management, relevant epidemiological skills, prevention, application of molecular typing, treatment prescribing, an introduction to surgical/ radiotherapy management, legal and socio-economic aspects of cancers, the interface between the community and the hospital. (Annexure -II).

Semester 3

Cytogenetic and Molecular training: To gain experience and acquire knowledge about molecular diagnosis and its application in oncology. The resident will apply the tests and learn their interpretation. Exposure to Electron Microscopy with respect to oncology. (annexure III). Recent advances in all the disciplines.

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List of Books in Departmental Library

S. No.	Name of Books/Publisher	Author/Edited by
1.	BIOPSY INTERPRETATION OF THE BREAST	STUART J.SCHNITT, LAURA C. COLLINS
3.	SURGICAL PATHOLOGY OF THE GI TRACT; LIVER, BILIARY TRACT AND PANCREAS	ROBERT D.ODZE, JOHN R. GOLDBLUM
6.	ROSEN'S BREAST PATHOLOGY	PAUL PETER ROSEN
8.	TEXTBOOK AND COLOR ATLAS OF SALIVARY GLAND PATHOLOGY DIAGNOSIS AND MANAGEMENT	ERIC R.CARLSON, ROBERT A. ORD
9.	UROLOGIC SURGICAL PATHOLOGY	DAVID G.BOSTWICK
10.	DIAGNOSTIC SURGICAL PATHOLOGY OF THE HEAD & NECK	D.R.GNEEP
11.	ATLAS OF GROSS PATHOLOGY HISTOLOGIC CORRELATION	MAN G. ROSE
14.	BONE & SOFT TISSUE PATHOLOGY	FOLPE
15.	STERNBERG'S DIAGNOSTIC SURGICAL PATHOLOGY	MILLS
20	DIAGNOSTIC PAEDIATRIC SURGICAL PATHOLOGY	SEBIRE, MELONE, JACQUAS
21	BIOPSY INTERPRETATION OF SKIN PRIMARY LYMPHOID CUTANEOUS NEOPLASIN	CROWSON
22	ROSAI & ACKERMAN'S SURGICAL PATHOLOGY VOL-1 & 2	JUAN ROSAI
23	DIAGNOSTIC PATHOLOGY BREAST	HICKS
24	DIAGNOSTIC PATHOLOGY HEPATOBILIARY & PANCREATIC	MISDRAJI
28	LEVER'S HISTOPATHOLOGY OF THE SKIN	DAVID E.ELDER

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29	DIAGNOSTIC PATHOLOGY GENTIO URINARY	McKENNY, TICKOO
30	DIAGNOSTIC IHC THERANOSTIC & GENOMIC APPLICATIONS	DAVID J. DABBS
31	BIOPSY INTERPRETATION OF GASTRO INTENSETINAL TRACT MUCOSA	ELIZABETH A. MONTGOMERY
32	BIOPSY INTERPRETATION OF SOFT TISSUE TUMORS	CYRIL FISHER, ELIZABETH A. MONTGOMERY
34	DIAGNOSTIC PATHOLOGY SOFT TISSUE TUMORS	ELIZABETH A. MONTGOMERY
35	DIFFERENTIAL DIAGNOSIS IN SURGICAL PATHOLOGY	GATTUSO REDDY
36	DIAGNOSTIC PATHOLOGY :ENDOCRINE	MOSE
37	DIAGNOSTIC PATHOLOGY :HEAD & NECK	THOMPSON
39	DIANOSTIC PATHOLOGY : NEOPLASTC DERMATO- PATHOLOGY	CASSARINO
40	DIAGNOSTIC PATHOLOGY : NEUROPATHOLOGY	BURGER
42	DIAGNOSTIC PATHOLOGY : PEDIATRIC NEOPLASM	PUTNAM
54	ESSENTIAL CONCEPTS IN MOLECULAR PATHOLOGY	COLEHAN
55	CUTANEOUS ADNEXAL TUMORS	KAZAKAR
56	ADVANCES IN SURGICALPATHOLOGY AND PROSTATE CANCER	RO
57	ADVANCES IN SURGICAL PATHOLOGY LUNG CANCER	CAGLE
58	ADVANCES IN SURGICAL PATHOLOGY :GASTRIC CANCER	TAN
59	ADVANCES IN SURGICAL PATHOLOGY : ENDOMETRIAL CANCER	SIENKO
67	SOFT TISSUE TUMORS : A MULTIDISCIPLINARY DECISIONAL DIAGNOSTIC APPROACH	KLIJANIE
70	PRACTICAL BREAST PATHOLOGY : A DIAGNOSTC APPROACH	ATKINS

71	PRACTICAL SKIN PATHOLOGY : A DIAGNOSTIC APPROACH	JAMES W.PETERSON
72	PRACTICAL SOFT TISSUE PATHOLOGY : A DIAGNOSTIC APPROACH	JASON L. HORNICK
73	ADVANCES IN SURGICAL PATHOLOGY COLORECTAL CARCINOMA & TUMORS OF THE VERMIFORM APPENDIX	LWW YANISS
78	BIOPSY INTERPRETATION OF THE UPPER AERODIGESTIVE TRACT & EAR	STELOW
79	BIOPSY INTERPRETATION OF THE FROZEN SECTION	TAXY
83	DIAGNOSTIC PATHOLOGY SOFT TISSUE TUMORS	FISHER,CYSIL
86	DIAGNOSTIC HISTOPATHOLOGY OF TUMORS VOL-1 & 2	CHRISTOPHER D. M. FLETCHER
90	MODERN SURGICAL PATHOLOGY VOL-1 & 2	WEIDNER /COTE,SUSTER
91	LEVER'S HISTOPATHOLOGY OF THE SKIN	DAVID.E.ELDER
92	DIFFERENTIAL DIAGNOSTIC IN SURGICAL PATHOLOGY	GATTUSO,REDDY DAVID
93	WHO GLASSIFICATION OF TUMORS OF THE CENTRAL NERVOUS SYSTEM	DAVID N.LOUIS
98	DAHLIN'S BONE TUMORS	K.KRISHNAN UNNI, CARRIE Y. INWARDS
99	BANCROFT'S THEORY & PRACTICE OF HISTOLOGICAL TECHNIQUES	S. KIMSUVAMA, CHRISTHOPHER LAYTON, JOHN.D. BANCROFT

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List of Journals

1. Archives of Pathology
2. American journal of Pathology
3. Modern Pathology
4. Cytolopathology
5. Indian journal of pathology and microbiology
6. Indian journal of cytology
7. Pathology Oncology Research
8. Journal of Clinical Oncology
9. Breast Cancer Research
10. European Journal of Cancer
11. Endocrine-Related Cancer
12. Seminars in Oncology
13. Cancer cytopathology
14. Journal of Hematology and Oncology
15. Targeted Oncology
16. Lancet Oncology.

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Syllabus

Fundamentals of Surgical Pathology including molecular biology:

1. Quality control, quality assurance
2. Grossing of radical surgical specimens with emphasis on surgical margins inking
3. Histological interpretation
4. Designing of IHC panel
5. Prognostic/ predictive molecular markers
6. Molecular tests application and interpretation
7. Synoptic reporting
8. Bio statistics
9. Computerization

Interpretation of systematic oncology:

1. Neuro-oncology
2. Head and Neck oncology
3. Endocrine and breast
4. Female genital tract
5. Uro-oncology and male genital tract
6. Bone and soft tissues
7. Gastrointestinal tract
8. Liver and pancreatico-biliary
9. Skin and Adnexa

Basics of Intra- operative interpretation on oncology specimens

1. Frozen section: Processing and interpretation
2. Imprint Cytology: Processing and interpretation
3. Squash cytology: Processing and interpretation
4. Accuracy and precision in their interpretation and turn around time

Basic laboratory techniques in Clinical chemistry:

1. Serological tumor markers tests and interpretation
2. Quality control

Basic Ancillary Technique: Immunohistochemistry test procedure, standardization/ trouble shooting and interpretation

Advanced and ancillary techniques (3rd semester)

1. Fluorescence in situ hybridization (FISH) test procedure, standardization/ trouble shooting and interpretation
2. PCR in oncology: test procedure, standardization/ trouble shooting and interpretation
3. Electron microscopy in oncology: test procedure, standardization/ trouble shooting and interpretation

7. Digital Pathology and consultations in Oncology

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Clinical Course: (2nd semester)

- Understanding the team approach in management of a patient of cancer
- Introduction to Diagnosis & management of cancers (oral cancers/ head neck cancers/ GI cancers/ Endocrine and breast cancers/ Genitourinary cancers/ Gynecological cancers/ bone and soft tissue cancers and others presenting in KGMU)
- Concept of chemotherapy and its administration
- Concept of radiotherapy and its administration
- Impact of histological variables on diagnosis and management of cancer patients
- Follow-up of cancer patients
- Radiological co-relation
- Patient understanding and communication skills
- Building of communication skills with fellow surgeons and medical oncology specialists
- Methods and community approach to cancer prevention drives.

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Annexure - I

Check list for Fellow in Oncopathology

1. Do daily:

- a). Gross cancer resection specimens.
- b). Interpret Histology of the cancer specimens
- c). Enquire about problem/ interesting cases
- d). Go to Clinical Departments rounds
- e). Review on your own, then with pathologist of unknown slides.

2. Do regularly, as the case comes up:

- a). Interpret IHC
- b). Perform and interpret FISH and PCR results.
- c). Intra-operative techniques
- d). Go to Tumor Board meetings.

3. Do/ watch at least once:

Date	Completed	
_____	_____	a. Standardize IHC
_____	_____	b. Gross/ section and independently interpret frozen section.
_____	_____	c. Follow up the diagnosis of the different cases.
_____	_____	d. USG guided sample collection.
_____	_____	e. Perform different special staining.
_____	_____	f. Gross/ stain and independently interpret Squash Cytology.
_____	_____	g. Perform PCR test.
_____	_____	h. Perform FISH test.
_____	_____	i. Perform serum tumor marker Assay.
_____	_____	j. Reading the departmental slides.
_____	_____	k. Gross
_____	_____	i. Bite Composite Specimen
_____	_____	ii. Whipple Specimen

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iii. Radical Laryngectomy

iv. Gastrectomy/ APR specimen.

1. IHC Panel

i. Design and interpretation in Soft tissue tumor

ii. Design and interpretation in Ovarian neoplasm

iii. Design and interpretation in round cell tumor

iv. Design and interpretation in Unknown primary

m. Tumor Board Proceeding (Minimum 6)

n. Radiotherapy/ surgical specialty

i. Radical Surgical Procedure.

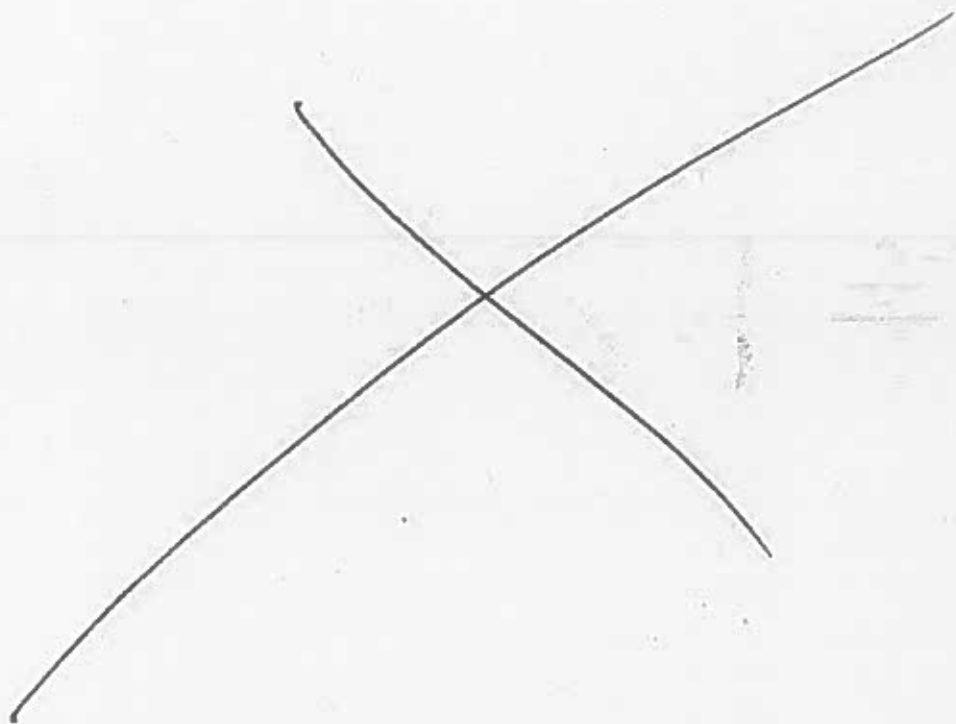
ii. Radiotherapy session

iii. Chemotherapy session

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Annexure - II

**Overview of Oncopathology PDCC Programme
Required Rotations and Supervisors**

Sl. No.	Rotation	Supervisors	Length
1.	Gross Room.		
2.	Surgical / gynecology pathology reporting		
3.	Cytopathology Reporting		
4.	IHC Laboratory		
5.	Cytogenetic & molecular Lab		
6.	Clinical Chemistry Lab		
7.	EM/ 106 Lab		
8.	Surgical Oncology		
9.	Radiotherapy		
10.	Radio diagnosis		
11.	Other surgical specialties		

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Annexure - III

Oncopathology

- Epidemiology of cancer
- Grossing and interpretation of pathology specimens
- Synoptic reporting based on College of American Pathologists Guidelines
- Computerization
- Organisation, role, responsibilities and resource implications of effective oncology reporting.
- Record keeping
- Statistics in oncology
- Team management and communication skills
- Strategies for quality control (eg. Policies, review and audit)
- Handling of Information technology for digital pathology
- Treatment policies and role of histopathologist
- Management of hospital waste.

Bio statistics

Research Methodology

Theory:

1. Basic laboratory techniques
2. Grossing of radical surgical procedure specimens
3. Basics of neoplasia
4. Oncogenes and molecular mechanisms
5. Systemic oncology
 1. Neuro-oncology
 2. Head and Neck oncology
 3. Endocrine and breast
 4. Female genital tract
 5. Uro-oncology and male genital tract
 6. Bone and soft tissues
 7. Gastrointestinal tract
 8. Liver and pancreatico-biliary
 9. Skin and Adnexa
6. FNA in oncology
7. Ancillary techniques in oncology
 1. IHC
 2. PCR
 3. FISH
8. Management of Hospital waste.
9. Indenting, procurement and inventory of laboratory requirement and equipments
10. Instrumentation
11. Scientific writing
12. Bio-statistics

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Laboratory course:

1. Histopathology:

- Tissue handling and grossing
- Reporting
- Ancillary test designing and interpretation
- Synoptic reporting
- Record keeping
- Laboratory management

2. Cytopathology

- FNA reporting
- Guided FNA ancillary techniques in cytology

3. IHC/ Cytogenetics and molecular Laboratory

- Test standardization
- Test procedures
- Interpretation
- Troubleshooting
- Quality control

4. Clinical chemistry

- Serological tumor marker tests
- Test procedures and interpretation
- Quality control

5. EM / 106 Laboratory

- Test run and result interpretation overview

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