Logbook of MS of Medical Histology & Cell Biology

Personal Data

Name: ……
Department : ……
Mobile Number:……
E-mail Address: ……

Master Degree:

Date of registration: ……/……/……

Signature:

Head of the Department

Vice Dean for research and postgraduate study

Aim of the Logbook:

To provide evidence that the candidate attained the desired level of competence required to

gain the award. In this book, the candidate will document all academic and clinical skills he/she attained during their training.

Important regulations (for MS candidates):

-To be legible for the first part MS exam you have to attend at least 70% of the lectures of each course in the semester as evidenced by the logbook

-To be legible for the (MCQ online) exam at the end of each of second part semesters you have to attend at least 70% of the lectures of each course/module in the semester as evidenced by the logbook.

- To be legible for the final MS exam :

1- A time interval of 36 months must pass since the **day of registration to the job** for residents and demonstrators and 30 months since the day **of degree registration** for non residents.

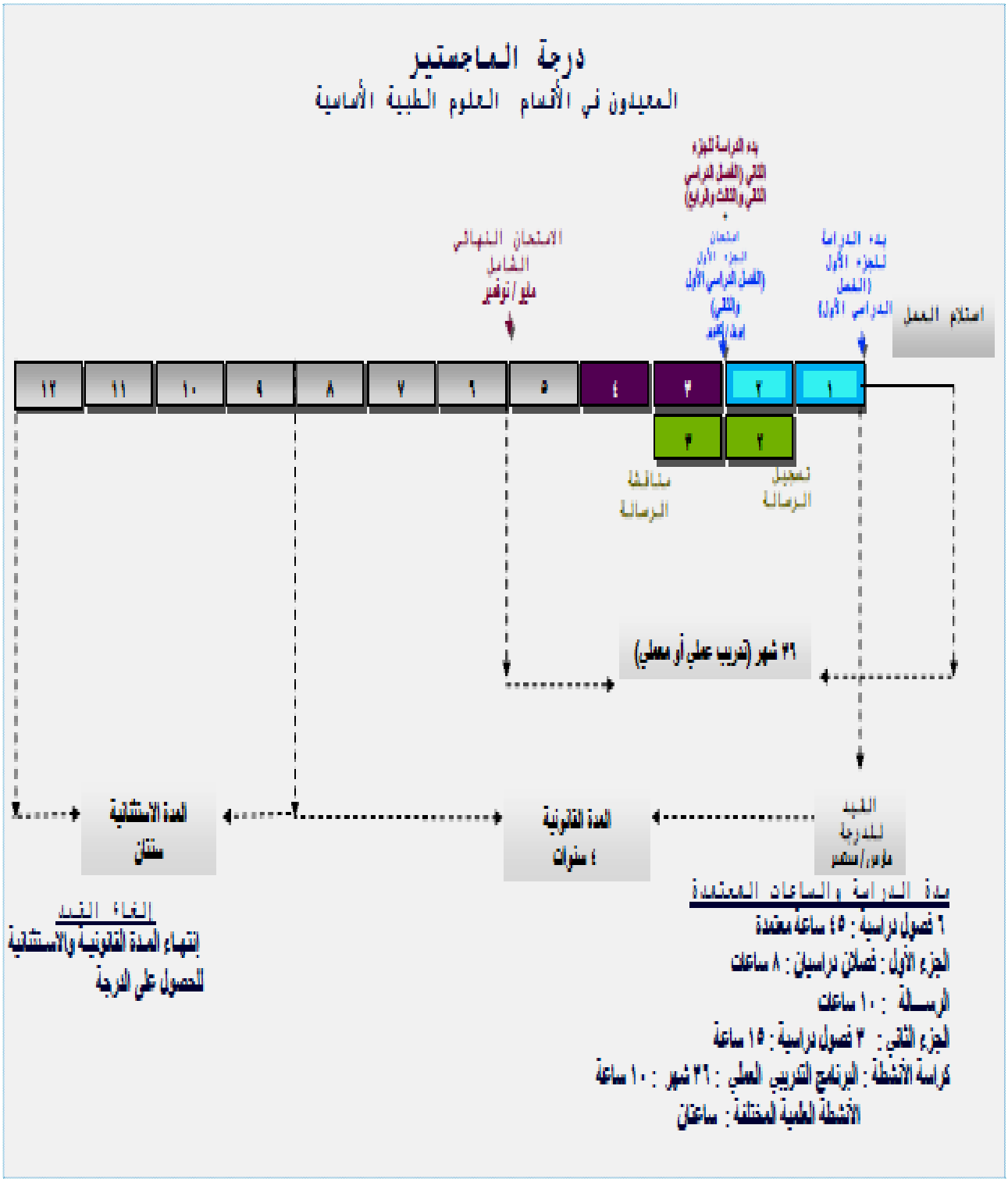
2- You have to spend **a year of daily** clinical/practical training in the department or **two years with three times/week** practical/clinical training.

3-You have to register 4 semesters on Ibn lhaythm registration page.

4- You have to attend 70% of the lectures of each course in the second part of MS degree.

5- You have to fulfill and perform 70% of the practical skills documented in the logbook.

Bylaws of the MS



Master Degree in Histology & Cytology (HIST 500)

	المقـــررات	Courses	الكـود	الساعات المعتمدة	
الفصل الدراسي الأول والثاني	كيمياء الأنسجة	Histochemistry	HIST 502 HI	4	٨
	يحدد مجلس القسم بالإشتراك مع الطالب مقرر علمي واحد من المقررات الآتية :		HIST 505	4	
	الباثولوجي	Pathology			
	علم الأجنة	Embryology	HIST 501		
الفصل الدراسي الثالث والرابع					١٥
	علم الأنسجة وبيولوجيا الخلية	Histology & Cell Biology	HIST 502	13	
	مقرر اختياري (يختار مقرر واحد): كيمياء الأنسجة المناعية الكيمياء الحيوية العامة	Elective Course: Immunohistochemistry General Biochemistry	HIST 502 IH HIST 504 GB	2	
كراسة الأنشطة	برنامج التدريب العملي في علم الأنسجة والخلايا - تحضير العينات لفحصها بالميكروسكوب الضوئي - تحضير العينات لفحصها بالميكروسكوب الإلكتروني - أنواع الصباغات المختلفة		HIST 502 P		١٠
	• أنشطة علمية مختلفة				٢
الرسالة					١٠
	إجمالي الساعات المعتمدة				٤٥

نظام الامتحان وتوزيع الدرجات

الفصل الجزء الأول

المقرر	الاختبار	الدرجة				إجمالي
		Written	MCQ	Structured Oral	OSPE	
كيمياء الأنسجة	تحريري (٣ ساعات) + شفهي + عملي	١٤٤	٣٦	٦٠	٦٠	٣٠٠
المقرر الذي تم اختيارة	تحريري (٣ ساعات) + شفهي + عملي	١٤٤	٣٦	٦٠	٦٠	٣٠٠
إجمالي الدرجة						٦٠٠

الامتحان النهائي الشامل

المقرر	الاختبار	الدرجة				إجمالي
		Written	MCQ	Structured Oral	OSPE	
علم الأنسجة وبيولوجيا الخلية	إختباران تحريريان مدة كل منهما ثلاث ساعات + اختبار شفهي + اختبار عملي	ورقة أولي(١٢٠) cytology: general بنسبة 30% : 70% ورقة ثانية (١٢٠) Special :Neurohist بنسبة 60% : 40%	٣٠ + ٣٠	١٥٠	١٥٠	٦٠٠
المقرر الاختياري	اختبار تحريري مدته ساعة	١٠٠				
إجمالي الدرجة						٧٠٠

في كل مقرر يتم تدريسه في نهاية الفصل الدراسي وتحسب درجاته بنسبة ٢٠٪ من MCQ ملحوظة: سيتم عقد امتحان الدرجة الكلية المخصصة

Contents

Section I:

Scientific Lectures

Name of the course: Histochemistry

Compulsory **First part**

Credit hours: 4 **Semester: (spring/fall/summer) year.....**

Date	Title of the lecture	Lecturer's signature
	• CONNECTIVE TISSUE STAINS	
	• CONNECTIVE TISSUE STAINS • SPECIMEN PREPARATION FOR ENZYME HISTOCHEMISTRY	
	• CONNECTIVE TISSUE STAINS • TYPES OF HISTOCHEMICAL REACTIONS	
	• MUCINS STAINS • THE USE OF CONTROLS IN FOR ENZYME HISTOCHEMISTRY	
	• GLYCOGEN STAINS	
	• LIPIDS	
	• PROTEINS AND NUCLEIC ACIDS • BONE	
	• DECALCIFICATION OF BONE • HISTOCHEMISTRY OF BONE AND CARTILAGE	
Date	Title of the lecture	Lecturer's signature

	• PIGMENTS & MINERALS • ACID AND ALKALINE PHOSPHATASES	
	• CYTOP ASMIC GRANULES, AND ORGANELLES	
	• SUCCINIC DEHYDROGENASE, ESTERASE STAINS • ATPASE, NADH DIAPHORASE STAINS	
	• DIAGNOSTIC APPLICATIONS OF ENZYME HISTOCHEMISTRY	
	• AMYLOID • ENZYME HISTOCHEMICAL TECHNIQUES FOR MUSCLE	
	• NEUROENDOCRINE	
	• TECHNIQUES IN NEUROPATHOLOGY • DIAGNOSTIC APPLICATIONS OF ENZYME HISTOCHEMISTRY	

Name of the course: Pathology

Elective **First part**

Credit hours: 4 **Semester: (spring/fall/summer) year.....**

Date	Title of the lecture	Lecturer's signature
	Reversible cell injury	
	Irreversible cell injury: • **Apoptosis**	
	Irreversible cell injury: • **Necrosis**	
	Intra cellular and extracellular deposition of: • **Mucin** • **Hyalinosis** • **Amyloidosis** • **Pathological calcification** • **Pathological pigmentation**	
	Acute inflammation	
	Chronic inflammation	
	Circulatory disturbance: • **Hyperaemia** • **Thrombosis** • **Embolism**	
	Circulatory disturbance: • **Ischemia and Infarction** • **Gangrene**	
Date	**Title of the lecture**	**Lecturer's signature**

	Tissue repair: • **cell regeneration** • **fibrosis**	
	Cell adaptation: • **Atrophy** • **Hypertrophy**	
	Cell adaptation: • **Hyperplasia**	
	Cell adaptation: • **Metaplesia** • **Displasia**	
	Neoplasia	
	General pathology of infectious diseases	
	Diseases of immunity	

Name of the course: Embryology

Elective First part

Credit hours: 4 **Semester: (spring/fall/summer) year.....**

Date	Title of the lecture	Lecturer's signature
	General embryology	
	Anatomy of male and female genital tracts	
	Gametogenesis – Oogenesis – Spermatogenesis	
	Female reproductive cycle – Uterine cycle – Ovarian cycle	
	First week of pregnancy – Fertilization – Implantation – Decidua formation	
	Second week of pregnancy – Cleavage – Changes in the embryonic disc	
	Third week of pregnancy – Gastrulation – Notocord formation – Neural tube formation	
Date	**Title of the lecture**	**Lecturer's signature**

	Fourth week of pregnancy (organogenesis) • Embryonic disc folding	
	Prenatal periods	
	Congenital malformations	
	Foetal membranes	
	Twins	
	Special embryology	
	Development of the gastrointestinal tract	
	Development of the cardiovascular system	
	Development of the genito-urinary system	
	Development of the respiratory system	
	Development of the nervous system	
	Development of the limbs	
Date	**Title of the lecture**	**Lecturer's signature**
	Development of the special sense organs	

	Development of body cavities	
	Development of the endocrine system	
	Development of the pharyngeal apparatus	
	Development of head and neck	

Name of the course: Histology & Cell biology (Module 1; Cytology)

Compulsory Second part:

Credit hours: 2 Semester: (spring/fall/summer) year.....

Date	Title of the lecture	Lecturer's signature
	Introduction	
	-Introduction for histology (principles and techniques)	
	-Microscopy: principles, types and applications Microscopy: phase contrast and differential phase microscope – Mercury lamps	
	-Microscopy: Ultraviolet, fluorescence microscopy, confocal laser, atom force, Lumneling and probe, scanning electron microscope. -Preparation of sections for TEM and SEM.	
	Membranous Cell organelles	
	-Cell membrane (molecular structure) -Cell coat -Differential centrifugation and density gradient centrifugation	
	- Function of the cell membrane	
	-Mitochondria: structure, function and diseases -Types of ATPases	
Date	**Title of the lecture**	**Lecturer's signature**
	-Endomembranous system: *rER *Ribosomes	

	*sER	
	-Endomembranous system: *Golgi apparatus *lysosomes and clinical hint	
	-Peroxisomes and clinical hint -Intracytoplasmic vesicle trafficking -Endosomes	
	Non- Membranous Cell organelles	
	-Microtubules -Centriole -Cilia-flagella -Clinical hint	
	-Microfilaments -Intermediate filaments -Thick filaments -Clinical hint	
Date	**Title of the lecture**	**Lecturer's signature**
	Cell inclusions	
	-Cell inclusions: stored food, pigments, crystals. -Cytosol and clinical hint	

	Nucleus	
	***Introduction** ***Nuclear envelope** ***Nuclear pores**	
	***Nucleoulus** ***Nuclear sap** ***Nuclear lamina (clinical hint)** ***Dynamics and regulation**	
	-Chromatin: ***Molecular structure** ***Clinical hint** ***Sex chromatin**	
	Cell division	
	Cell cycle (Interphase and mitosis) **Control of cell cycle**	
	-Meiotic cell division: ***Oogenesis** ***Spermatocytogenesis**	
Date	**Title of the lecture**	**Lecturer's signature**
	Karyotyping	
	-Karyotyping **Morphology of chromosomes**	

	-Chromosomal anomalies	

Name of the course: Histology & Cell biology (Module 1 ;

General Histology)

Compulsory Second part

Credit hours: 4.5 Semester: (spring/fall/summer) year.....

Date	Title of the lecture	Lecturer's signature
	Epithelium	
	-Simple epithelium	
	-Stratified epithelium	
	-Glandular epithelium	
	-Basement membrane	
	-Neuroepithelium	
	-Cell junctions	
	Connective Tissue	
	-C.T. fibres	
	-C.T. matrix	
	-C.T. cells	
	-C.T. proper	
Date	**Title of the lecture**	**Lecturer's signature**
	Cartilage	
	-Cartilage matrix Cartilage cells	
	- Types of Cartilage	

	- Growth of Cartilage -Clinical hint	
	Bone	
	-Bone cells	
	- Types of Bone	
	-Types of bones ossification	
	- Growth of Bone - Factor affecting Bone growth -Clinical hint	
	Muscle Tissue	
	-Skeletal muscle fibres -Triad of tubular system -Classification of muscle fibres -Cardiac muscle fibres	
Date	**Title of the lecture**	**Lecturer's signature**
	-Wall of the heart -Valves & conducting system -Moderator band	
	-Smooth Muscle	

	Blood	
	-Erythrocytes	
	-Leucocytes	
	-Thrombocytes	
	-Structure and types of Bone marrow	
	-Haemocytopoiesis	
	Vascular System	
	-General structure of blood vessels	
	-Large Arteries	
	- Large Veins	
	-Medium Sized Artery & Veins **-Special types of Medium Sized Artery**	
	-Arterio-venous connection: **1.Blood capillaries** **2.Blood sinusoids** **3.A-V anastomosis**	
Date	**Title of the lecture**	**Lecturer's signature**
	Nervous Tissue	
	-Structure of the neuron **-Types of the neuron**	
	- Structure of the nerve fiber	

	-Types of the nerve fiber -The peripheral nerve trunk	
	-Myelination of nerve fiber	
	-Nerve ganglia	
	-The synapse	
	- Types of neuroglia	
	-Types of degeneration of Nerve Fibers	
	-Regeneration of Nerve Fibers	
	-Different Stains for degenerating nerve fibers	
	Lymphatic System	
	-Non capsulated lymphoid follicles	
	-Lymph node	
	-Spleen	
	-Tonsils	
	-Thymus gland	
	-The macrophage system	
Date	**Title of the lecture**	**Lecturer's signature**
	Respiratory System	
	-The conducting portion of the respiratory system	
	-The respiratory portion of the respiratory	

	system	
	-Blood air barrier -Alveolar macrophage -The pleura -Blood supply of the lung	

Name of the course: Histology & Cell biology (Module 2 ; Special Histology)

Compulsory Second part

Credit hours: 4 Semester: (spring/fall/summer) year.....

Date	Title of the lecture	Lecturer's signature
	Skin	
	-Epidermis of thick skin	
	-Dermis of thick skin and Sweat glands	
	-Thin skin and hair follicle	
	Urinary system	
	-Urinefous tubule of the kidney	
	-Juxtaglomerular apparatus and urinary passages	
	Gastrointestinal Tract	
	-Oral cavity -Esophagus	
	-Stomach - Gastro-esophageal junction	
Date	**Title of the lecture**	**Lecturer's signature**
	-Small intestine - Pyloro-duedenal junction	
	-Small intestine - Pyloro-duodenal junction	

	- Large intestine -Recto-anal junction	
	Digestive Glands	
	-Classification of digestive glands -Types of salivary glands -Structure of salivary glands	
	-Pancreas (General structure, exocrine part) -Pancreas (Islets of langerhans)	
	-Liver (lobules) -Liver(hepatocytes, biliary system) -Medical application	
	Endocrine System	
	-Development of pituitary gland -Histology of pars distalis -Structure of pars nervosa -Blood supply, medical application	
Date	**Title of the lecture**	**Lecturer's signature**
	-Structure of suprarenal cortex -Structure of suprarenal medulla -Blood supply, medical application	
	-Thyroid gland	

	-Parathyroid gland, medical application -Pineal gland	
	Male Genital System	
	-Seminal tubule and Sertoli cells - Spermatogensis - Intertesticular ducts	
	- Excretory genital ducts - Accessory glands - Penis and male urethrae	
	Female Genital System	
	-Development of the ovary -Ovarian follicles	
	- Follicular growth - Ovulation and corpus luteum -Uterine tube	
	-Uterus, placenta, vagina - Mammary gland	

Name of the course: Histology & Cell biology (Module 2 ; Neurohistology)

Compulsory Second part:

Credit hours: 2.5 Semester: (spring/fall/summer) year…….

Date	Title of the lecture	Lecturer's signature
	Meninges	
	CSF	
	Spinal Cord	
	Spinal cord	
	Ascending Tracts	
	Ascending Tracts	
	Descending Tracts	
	Short Tracts	
	Brain stem	
	Medulla	
	Medulla	
Date	**Title of the lecture**	**Lecturer's signature**
	Reticular Formation	
	Pons	
	Pons	
	Midbrain	

	Midbrain	
	Ear	
	Ear 1	
	Ear 2	
	Eye	
	Eye 1	
	Eye 2	
	Eye 3	
	Eye 4	
	Receptors	
	Cerebrum	
	Cerebrum 1	
	Cerebrum 2	
	Cerebellum	

Name of the course: Immunohistochemistry

Elective: **Second part:**

Credit hours: 2 **Semester: (spring/fall/summer) year.....**

Date	Title of the lecture	Lecturer's signature
	Introduction and Immunohistochemical	

	theory	
	Sample preparation and tissue fixation immunohistichemical stains	
	Types Of antibodies Antibodies production	
	Antigen Retrieval techniques	
	Types of tissue control in IHC	
	Methods of blocking of non specific site During IHC	
	Preparation of Coated Slides for IHC	
	Direct Immunohistochemisty (IHC) Staining procedures	
	Indirect Immunohistochemisty (IHC) Staining Procedures	
	Method of Detection of low levels of antigen	
	Immuno-Fluorescence techniques	
Date	**Title of the lecture**	**Lecturer's signature**
	Immuno-Electron microscopic techniques	
	Quality control measures used while performing IHC procedures	
	Quality control measures used while performing IHC procedures	

	Application of IHC in the : 1. **Histology & cell Biology** 2. **Genetics** 3. **Histopathological diagnosis** 4. **Medical Research**	

Name of the course: General Biochemistry

Elective Second part

Credit hours: 2 Semester: (spring/fall/summer) year.....

Date	Title of the lecture	Lecturer's signature
	Carbohydrate chemistry & metabolism	

	Lipid chemistry & metabolism	
	Physical chemistry	
	Protein chemistry & general metabolism	
	Individual amino acid Metabolism	
	Principles of Heme metabolism	
	Purine & pyrimidine chemistry & metabolism	
	.Metabolic interrelation & minerals	
	Mechanism of hormonal action	
	Body Fluids	
	Basic function of Cell organelles & structure of biological membrane	
Date	**Title of the lecture**	**Lecturer's signature**
	Vitamins & enzymes	
	Basic knowledge of Cell cycle & apoptosis	
	Molecular biology & recombinant DNA	
	Biological oxidation &Xenobiotic metabolism	

Section II:

Practical Skills

List of requirements (may include multiple pages)

Name of the procedure/operation	Total number required	Observer	Assistant	Independent

Obtaining specimens for studying Histochemistry	**4**		**1**	**3**
Obtaining specimens for studying enzyme Histochemistry	**2**		**1**	**1**
Obtaining specimens for studying cytology	**2**		**1**	**1**
Obtaining specimens for studying general histology	**4**			**4**
Obtaining specimens for studying special histology	**4**			**4**
Obtaining specimens for studying Neuro-histology	**2**			**2**
Name of the procedure/operation	**Total number required**	**Observer**	**Assistant**	**independent**
Processing specimens for studying Histochemistry	**4**		**1**	**3**

Processing specimens for studying enzyme Histochemistry	**2**		**1**	**1**
Processing specimens for studying cytology	**2**		**1**	**1**
Processing specimens for studying general histology	**4**			**4**
Processing specimens for studying special histology	**4**			**4**
Processing specimens for studying Neuro-histology	**2**			**2**

Name of the procedure/operation	Total number required	Observer	Assistant	Independent
Staining sections for studying Histochemistry	**8**		**1**	**7**

Staining sections for studying enzyme Histochemistry	**2**		**1**	**1**
Staining sections for studying cytology	**2**			
Staining sections for studying general histology	**4**			
Staining sections for studying special histology	**4**			
Staining sections for studying Neuro-histology	**1**			

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 1 **Obtaining specimens for studying Histochemistry**			
Level of participation	**Date**	**Location**	**Signature of supervisor**
Procedure 2 **Obtaining specimens for studying enzyme Histochemistry**:……			

Level of participation:

Observer

Assistant

Independent

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 3 **Obtaining specimens for studying cytology**			
Level of participation	**Date**	**Location**	**Signature of supervisor**
Procedure 4 **Obtaining specimens for studying general histology** :……			

Level of participation:

Observer

Assistant

Independent

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 5 **Obtaining specimens for studying special histology**			
Level of participation	**Date**	**Location**	**Signature of supervisor**
Procedure 6 **Obtaining specimens for studying neurohistology**: ……			

Level of participation:

Observer

Assistant

Independent

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 7 **Processing specimens for studying Histochemistry**			
Level of participation	**Date**	**Location**	**Signature of supervisor**
Procedure 8 **Processing specimens for studying enzyme Histochemistry**:……			

Level of participation:

Observer

Assistant

Independent

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 9 **Processing specimens for studying cytology**			
Level of participation	**Date**	**Location**	**Signature of supervisor**
Procedure 10 **Processing specimens for studying general histology** :……			

Level of participation:

Observer

Assistant

Independent

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 11 **Processing specimens for studying special histology**			
Level of participation	**Date**	**Location**	**Signature of supervisor**
Procedure 12 **Processing specimens for studying neurohistology**: ……			

Level of participation:

Observer

Assistant

Independent

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 13 **Staining sections for studying Histochemistry**			
Level of participation	**Date**	**Location**	**Signature of supervisor**

Level of participation:

Observer

Assistant

Independent

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 14 **Staining sections for studying enzyme Histochemistry**:……			
Level of participation	**Date**	**Location**	**Signature of supervisor**
Procedure 15 **Staining sections for studying cytology**			
Procedure 16 **Staining sections for studying general histology** :……			

Level of participation:

Observer

Assistant

Independent

Procedures/Operations log (multiple pages)

(Under each procedure insert a number of rows equal to the no. required)

Procedure 17 **Staining sections for studying special histology**			
Level of participation	**Date**	**Location**	**Signature of supervisor**
Procedure 18 **Staining sections for studying neurohistology**: ……			

Level of participation:

Observer

Assistant

Independent

Section III: Seminars

List of requirements:

1- Seminar attendance: 6 seminars per year

2- Seminar performance: 3 seminars per year

1- Attendance

Date	Topic	Supervisor's signature

Date	Topic	Supervisor's signature

2- Performance

Date	Topic	Supervisor's signature

Section IV:
Student teaching sections.

List of requirements: attendance of **6** sections per week, performance of 4 sections per week

1- Attendance

Date	Section subject	Supervisor's signature
Date	Section subject	Supervisor's signature

2- Performance

Date	Section subject	Supervisor's signature

Date	Section subject	Supervisor's signature

Section V:

Scientific activities

(conferences/workshops)

List of requirements

Conferences			
Total number required	**Attendance**	**Organization**	**Presentation**
3/year	**3/year**		
Workshops			
Total number required	**Attendance**	**Organization**	**Presentation**
1/year	**1/year**		

Activity (Conference/Workshop	Role	Date	Supervisor's signature

Role:

-Attendant

-Organizer

-Presenter

Activity (Conference/Workshop	Role	Date	Supervisor's signature

Role:

-Attendant

-Organizer

-Presenter