

## Lesson Plan

### MKM COLLEGE OF POLYTECHNIC FOR GIRLS, HODAL(PALWAL)

**Name of the Faculty:** BABLI DUHAN (Theory)

**Discipline:** MEDICAL LABORATORY TECHNOLOGY

**Semester:** 4<sup>th</sup>

**Subject:** Histopathology and Cytology -II

**Lesson Plan Duration:** 15 weeks (from 07 January, 2019 to April, 2019)

**Work Load (Lecture/ Practical) per week (in hours):** Lectures- 04

Week	Theory		Practical	
	Lecture day	Topic (including assignment/ test)	Practical day	Topic
1 <sup>st</sup>	1 <sup>st</sup>	Light Microscope		Demonstration of various parts of light microscope (Mechanical)
	2 <sup>nd</sup>	Principles of light microscope		
	3 <sup>rd</sup>	Various parts of microscope and Uses of microscope		
	4 <sup>th</sup>	Cleaning and maintenance of microscope		
2 <sup>nd</sup>	5 <sup>th</sup>	Various attachments of compound microscope (principle only) - Polarizing microscopy and Dark field microscopy		Demonstration of various parts of light microscope (Optical)
	6 <sup>th</sup>	Phase contrast microscopy And Fluorescent microscopy		
	7 <sup>th</sup>	Electron microscopy		
	8 <sup>th</sup>	Assignment & revision of 1 <sup>st</sup> unit		
3 <sup>rd</sup>	9 <sup>th</sup>	Assignment &		Processing of tissue for

		revision of 1 <sup>st</sup> unit		frozen section
	10 <sup>th</sup>	Special stains		
	11 <sup>th</sup>	Principle, significance and interpretation of		
	12 <sup>th</sup>	different types of stains PAS (Periodic Acid Schiff's Reagent)		
4 <sup>th</sup>	13 <sup>th</sup>	Silver impergnation stain – Reticulin fibre		Staining and mounting of frozen section using H&E stain (rapid method)
	14 <sup>th</sup>	Ziehl Neelson's – for AFB and Leprae		
	15 <sup>th</sup>	Masson's trichrome stain		
	16 <sup>th</sup>	Oil Red O – fat		
5 <sup>th</sup>	17 <sup>th</sup>	Gram's stain – Gram +ve and Gram –ve		Staining and mounting of frozen section using H&E stain (oil red o method)
	18 <sup>th</sup>	Assignment & revision of 2 <sup>nd</sup> unit		
	19 <sup>th</sup>	Decalcification		
	20 <sup>th</sup>	Process of decalcification		
6 <sup>th</sup>	21 <sup>st</sup>	Various types of decalcifying methods		Preparation of various mounting reagents for museum specimens
	22 <sup>nd</sup>	Their mechanism, advantage, disadvantage and applications		
	23 <sup>th</sup>	Assessment of decalcification		
	24 <sup>th</sup>	Assignment & revision of 3 <sup>rd</sup> unit		
7 <sup>th</sup>	25 <sup>th</sup>	Test of unit 3 <sup>rd</sup>		Demonstration and care of autopsy instruments
	26 <sup>th</sup>	Handling of fresh histological tissues (Frozen Section)		
	27 <sup>th</sup>	Reception and processing of frozen tissue and Freezing microtome and cryostat		

	28 <sup>th</sup>	Advantages and disadvantages of freezing microtome and cryostat		
8 <sup>th</sup>	29 <sup>th</sup>	Working, care, maintenance of freezing microtome and cryostat and Frozen section cutting		Demonstration of malignant cell
	30 <sup>th</sup>	Staining - Rapid H&E - Fat stain		
	31 <sup>st</sup>	Mounting of frozen section		
	32 <sup>nd</sup>			
9 <sup>th</sup>	33 <sup>rd</sup>	Assignment & revision of 4 <sup>th</sup> unit		Preparation of dry smear
	34 <sup>th</sup>	Museum Techniques		
	35 <sup>th</sup>	Introduction to museum with emphasis on importance of museum		
	36 <sup>th</sup>	Reception,		
10 <sup>th</sup>	37 <sup>th</sup>	fixation		Preparation of dry smear and wet smear
	38 <sup>th</sup>	processing of various museum specimens		
	39 <sup>th</sup>	Cataloguing of museum specimen		
	40 <sup>th</sup>	Assignment & revision of 5 <sup>th</sup> unit		
11 <sup>th</sup>	41 <sup>st</sup>	Test of unit 5 <sup>th</sup>		To perform Pap stain
	42 <sup>nd</sup>	Autopsy Introduction to autopsy technique (Care and maintenance of autopsy area, autopsy instruments, handling of dead bodies) Use of autopsy		
	43 <sup>rd</sup>	Assignment &		

		revision of 6 <sup>th</sup> unit		
	44 <sup>th</sup>	Malignant Cells Characteristics Differences from normal cell		
12 <sup>th</sup>	45 <sup>th</sup>	Harmonal Assessment Importance of HCG Use of Harmonal Assessment (Pregnancy Test)		Fixation of smears with MGG
	46 <sup>th</sup>	Assignment & revision of 8 <sup>th</sup> unit		
	47 <sup>th</sup>	Test of unit 8 <sup>th</sup>		
	48 <sup>th</sup>	Aspiration Cytology		
13 <sup>th</sup>	49 <sup>th</sup>	Principle of FNAC (Fine Needle Aspiration Cytology)		Fixation of staining with MGG
	50 <sup>th</sup>	Indications of FNAC and Uses of FNAC		
	51 <sup>st</sup>	Staining Techniques - PAP Stain		
	52 <sup>nd</sup>	MGG (May- Grunwald – Giemsa		
14 <sup>th</sup>	53 <sup>rd</sup>	H&E (Haematoxylin & Eosin Stain		Demonstration of normal cell
	54 <sup>th</sup>	Revision of 10 <sup>th</sup>		
	55 <sup>th</sup>	Cytological special stains		
	56 <sup>th</sup>	Principle, Technique & Interpretation of : PAS ( Periodic Acid Schiffs reagent Stain		
15 <sup>th</sup>	57 <sup>th</sup>	Zeihl Neelson's(ZN) Stain (AFB)		Demonstration of malignant cell
	58 <sup>th</sup>	Advancements in Cytology - Automation in Cytology, Use of Cytospin		
	59 <sup>th</sup>	Revision of ALL units		

	60 <sup>th</sup>	Revision along with problem solving session		
--	------------------	---	--	--