

Lesson Plan

Name of the Faculty : Ashish Duhan
 Discipline : Medical Lab Technology
 Semester : 4th
 Subject : Histopathology & Cytology-II
 Lesson Plan : 15 weeks (From 13th March 2023 to 30 June 2023)
 Workload (lecture/practical) per week (in hours): Lectures-04, practicals-03

		Theory	
Lecture day	Tentative date of lect.	Topic (including assignment test)	Topic
1 st		Principles of light microscope	1. Demonstration of various parts of light microscope (Mechanical & Optical)
2 nd		Various parts of microscope	
3 rd		Uses of microscope	
4 th		Cleaning and maintenance of microscope AND Various attachments of compound microscope (principle only)	2. Demonstration of cryostat (brochures and charts can be used)
5 th		-Polarizing microscopy	
6 th		-Darkfield microscopy	
7 th		-Phase contrast microscopy	3. Processing of tissue for frozen section
8 th		-Fluorescent microscopy	
9 th		-Electron microscopy	
10 th		Principle, significance and interpretation of different types of stains -PAS	4. Staining and mounting of frozen section using H&E stain (rapid method), Oil Red "O".
11 th		-Silver impregnation stain – Reticulin fibre	
12 th		-Ziehl-Neelson's – for AFB and Leprae	
13 th		-Masson's trichrome stain	5. Preparation of various mounting reagents for museum specimens
14 th		-Oil Red O – fat	
15 th		-Gram's stain – Gram +ve and Gram –ve	
16 th		Decalcification – Process of decalcification	6. Demonstration and care of autopsy instruments
17 th		Various types of decalcifying methods	
18 th		Their mechanism, advantage, disadvantage and applications	
19 th		Assessment of decalcification	7. Demonstration of malignant cell
20 th		Handling of fresh histological tissues 4.1 Reception and processing of frozen tissue Freezing microtome and cryostat	
21 st		Advantages and disadvantages of freezing microtome and cryostat	

		Working, care, maintenance of freezing	
		microtome and cryostat	
22 nd		Frozen section cutting Staining - Rapid H&E - Fat stain Mounting of frozen section	8. Preparation of dry smear and wet smear
23 rd		Introduction to museum with emphasis on importance of museum	
24 th		Reception, fixation and processing of various museum specimens	
25 th		Cataloguing of museum specimen	
26 th		Autopsy - Introduction to autopsy technique (Care and maintenance of autopsy area, autopsy instruments, handling of dead bodies) Use of autopsy	9. To perform Pap stain
27 th		Malignant Cells Characteristics Differences from normal cell	
28 th		Harmonal Assessment Importance of HCG Use of Harmonal Assessment (Pregnancy Test)	
29 th		Principle of FNAC (Fine Needle Aspiration Cytology)	10. Fixation of smears and staining with MGG
30 th		Indications of FNAC Uses of FNAC	
31 st		- PAP Stain - MGG	
32 nd		Principle, Technique & Interpretation of PAS	REVISION
33 rd		Zeihl Nelson's (ZN) Stain (AFB)	
34 th		Advancements in Cytology - Automation in Cytology, Use of Cytospin	Revision
35 th		Revision	
36 th		Revision	
37 th		Revision	
38 th		Revision	Revision
39 th		Revision	
40 th		Revision	
41 st		Revision	Revision
42 nd		Revision	
43 rd		Revision	
44 th		Revision	Revision
45 th		Revision	

