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**Women Dental College,
Abbottabad**



Lab Manual

ORAL PATHOLOGY

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Description of oral pathology Lab

The oral pathology lab provides histopathological examination in department for understanding and learning of various disorder. The goal is to develop dental knowledge and skill in comprehensive histopathological study, laboratory and practical activities to help the students to diagnose and to educate the next generation in oral pathology.

Aims and objectives

The aim of lab is to:

1. Help the undergraduate students to correct the diagnosis of oral lesions through microscopic examination
2. It also help the students to learn about different histotechniques
- 3 Also help the students to learn about steps of H&N staining and steps of biopsy
4. To know how to operate the microscope and observe the slides

Faculty responsibility for course conduction

Sr.no	Faculty	Department	Designation
1	Dr Fiza Shafique	Oral pathology	HOD
2	Dr Kinza Malik	Oral pathology	Demonstrator

Equipment Of Oral Pathology Lab

Microscope

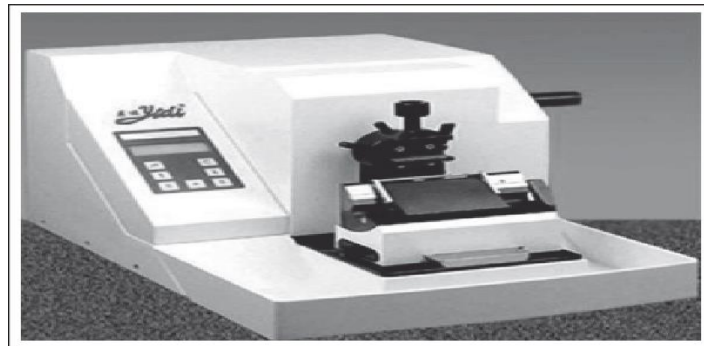


Figure: Parts of a microscope, Image Copyright © Sagar Aryal, www.microbenotes.com

- It is used to magnify small objects.
- It is used to observe an object at cellular level, allow pathologist to see shape of cell, its nucleus, and other organelles.
- It is used to diagnose the oral diseases through biopsy

Microtome

A microtome is a specialized precision cutting instrument, which accurately and repeatedly slices section from block of paraffin and plastic embedded tissue. Specialized microtome is used to section frozen tissue.



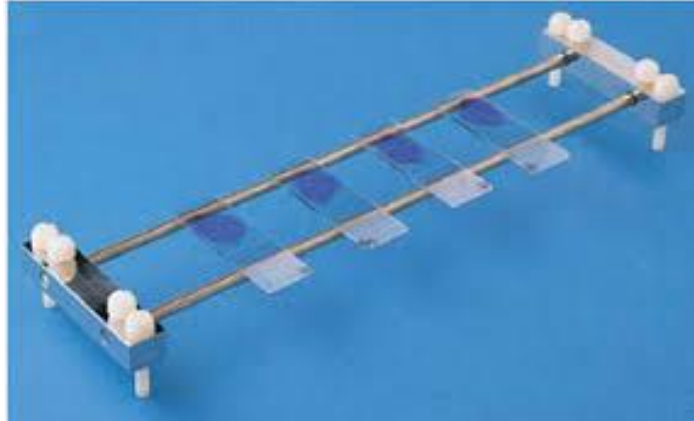
Autoclave

Autoclave plays a crucial role in sterilization, providing an effective and reliable solution for elimination of microorganism.



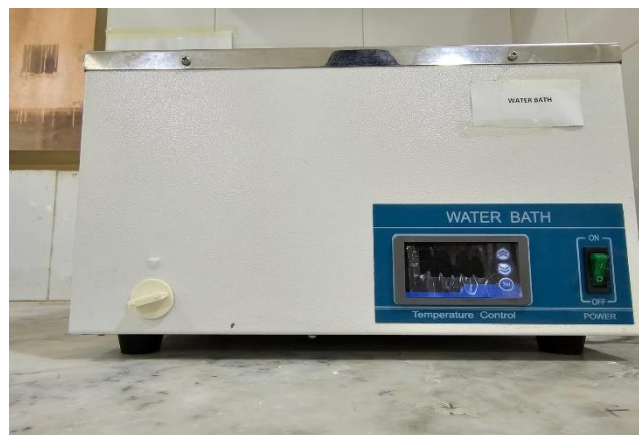
Staining racks

These racks facilitate the staining process.



Water Bath

A water bath is used to heat sample tissues



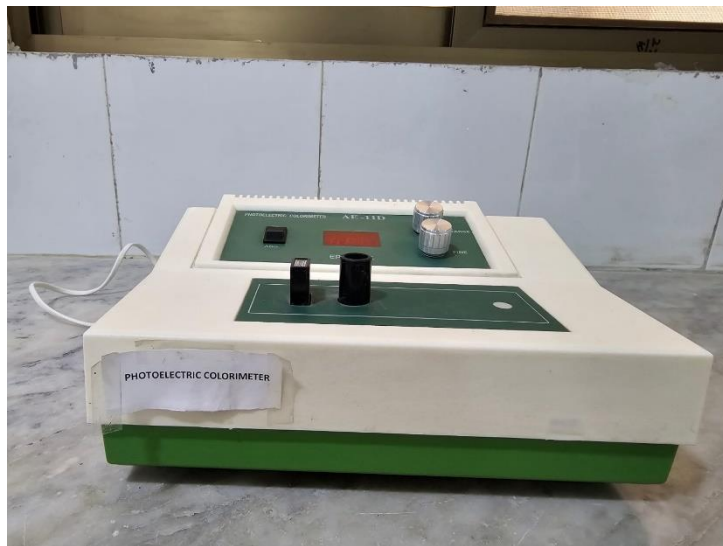
Thermostat Incubator

A laboratory incubator provides a temperature-controlled environment to support the growth of microbiological cultures. Typical incubators are insulated boxes with an adjustable heater, going up to 60°C to 65°C (140°F to 149°F), though some can go slightly higher (generally no more than 100°C).



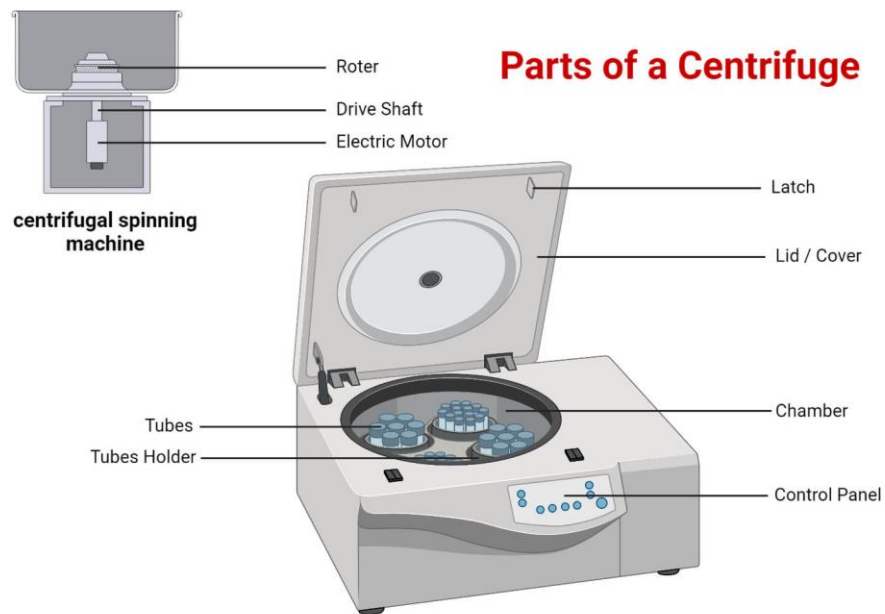
Photoelectric colorimeter

Photoelectric colorimetry is a technique used to determine the concentration of a substance in a solution by analyzing the intensity of light transmitted through the solution. It involves passing a light beam of a specific wavelength through the solution, and measuring the amount of light absorbed by the solution



Centrifuge

It is used in various laboratories to separate fluids, gases or liquid based on density. In research and clinical lab centrifuges are used for cell collection, organelle purification, virus purification, protein and nucleic acid purifications.



Curriculum Mp

Criteria	Information that is relevant to your curriculum and context
Subject:	Oral pathology
Class:	3 rd year BDS
Module:	
Additional comments & information that will help your peers and students understand the context of this curriculum: tutors, environment, resources, wider curricular structures etc.	

Topic	Intended learning outcomes (ILOs)	Teaching and Learning activities	Time Required	Assessments (formative and/or summative)
developmental disturbance of oral region	<p>1.to enumerate the different developmental disturbances of teeth and bone</p> <p>2. to correlate the syndromes associated with teeth like hyperdontia, hypodontia</p> <p>3. to describe the mechanism of dentinogenesis imperfecta and amelogenesis imperfect</p>	<p>Lecture</p> <p>Small group discussion (7 students)</p>	5hrs	<p>Formative ; MCQs and SEQs</p> <p>Summative ; OSCE</p>
cysts of oral cavity	<p>1. to describe the classification of odontogenic cysts</p> <p>2. to interpret the histopathology of odontogenic cysts</p> <p>3. to interpret the diagnosis of the condition and make differential diagnosis .</p> <p>The students should be able to plan the management of the cysts</p>	<p>Lecture</p> <p>Small group discussion (7 students)</p>	6hrs	<p>Formative ; MCQs and SEQs</p> <p>Assignment</p> <p>Summative ; OSCE</p>
Keratotic and related disorders	<p>To define histopathological terms</p> <p>To know about the histopathological features of epithelial dysplasia histopathology of leukoplakia and lichen planus and lupus erythematosus</p>	<p>Lecture</p> <p>Small group discussion (7 students)</p>	6hrs	<p>Formative ; MCQs and SEQs</p> <p>Summative ; OSCE</p>

Bone lesions	<ol style="list-style-type: none">1. to classify the metabolic and endocrine conditions of orofacial region2. to diagnose and evaluate the benign and malignant condition of the bone3. to interpret the pathogenesis and histopathology of the bone lesions	Lecture Small group discussion (7 students)	6hrs	Formative ; MCQs and SEQs Assignment Summative ; OSCE

Topic	Intended Learning Outcomes (ILOs)	Teaching and Learning activities	Time Required	Assessments (formative and summative)
odontogenic tumors	<ol style="list-style-type: none"> 1. to define and classify different epithelial and connective tissue odontogenic tumors of jaw and orofacial region 2. to distinguish the condition by its differential diagnosis 3. to distinguish the condition by its differential diagnosis 	<p>Lecture</p> <p>Small group discussion (7 students)</p>	6hrs	<p>Formative ; MCQs</p> <p>Assignment</p> <p>Summative ; OSCE</p>
epithelial disorders	<ol style="list-style-type: none"> 1. To define and classify the benign epithelial and pigmented white lesions 2. to diagnose and differentiate between the benign and malignant epithelial lesions 3. to interpret the histopathology and pathogenesis of epithelial white lesions 	<p>Lecture</p> <p>Small group discussion (7 students)</p>	6hrs	<p>Formative ; MCQs</p> <p>Summative ; OSCE</p>

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<u>Topic</u>	<u>Intended Learning Outcomes (ILOs)</u>	<u>Teaching and Learning activities</u>	<u>Time Required</u>	<u>Assessments (formative and/or summative)</u>
<u>Oral infections</u>	<p><u>1. to define and classify the viral, bacterial, and fungal infections of oral cavity</u></p> <p><u>2. to identify the virulent organisms associated with infections</u></p> <p><u>3. to interpret the histopathology of different viral, bacterial and fungal infections</u></p>	<p><u>Lecture</u></p> <p><u>Small group discussion (7 students)</u></p>	<u>6hrs</u>	<p><u>Formative ; MCQs and SEQs</u></p> <p><u>Summative ; OSCE</u></p>

<u>Immune mediated disorders</u>	<u>1. to define and classify the aphthous ulcer</u> <u>2. to identify the mucosal and skin conditiona associated with immune system</u> <u>3. to identify the immune mediated allergic skin reactions</u>	<u>Lecture</u> <u>Small group discussion</u> <u>(7 students)</u>	<u>7hrs</u>	<u>Formative ; MCQs and SEQs</u> <u>Summative ; OSCE</u>

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Topic	Intended Learning Outcomes (ILOs)	Teaching and Learning Activities	Time Required	Assessments (formative and/or summative)
salivary glands disorders	<ol style="list-style-type: none"> 1. to define and classify benign and malignant salivary gland disorders 2. to interpret the differential diagnosis and histopathology of benign and malignant condition of salivary gland 	<p>Lecture</p> <p>Small group discussion (7 students)</p>	6hrs	<p>Formative ; MCQs and SEQs</p> <p>Assignment</p> <p>Summative ; OSCE</p>
Dental caries	<ol style="list-style-type: none"> 1.To define dental caries, etiology, role of beacteria and dental plaque 2. Classification of dental caries 3. To know about zones of enamel, Dentine caries 	<p>Lecture</p> <p>Small group discussion (7 students)</p>	5hrs	<p>Formative ; MCQs and SEQs</p> <p>Summative ; OSCE</p>

Standard Operating Procedures (SOPs):

The following guidelines for the smooth running of Skills lab are presented and the users are expected to follow these.

- Students are strictly prohibited to write anything on the tables, walls etc.
- Students should handle the equipment with care and report any damage caused to the concerned department as soon as possible.
- Doors should be firmly closed and locked while leaving the lab area, and lights should be turned off.
- Students are not to be left unattended by faculty or staff at any time.
- In case any faculty members or students get hurt, a first aid kit will always be on hand in the skills lab.
- No food and drinks will be allowed in skills lab.
- Unauthorized persons are not allowed in the labs at any time.