

# ORAL BIOLOGY & TOOTH MORPHOLOGY:

## Introduction:

Oral Biology includes the study of the development, structure, form and function of the oral cavity and its constituent parts with special emphasis on the gross and microscopic structure of teeth and their supporting structures.

## Course Description

Courses is run throughout the academic year.

The first course is on **Tooth Morphology and Occlusion**. Students learn to identify teeth. They study the gross structure of permanent and deciduous teeth and learn about their function.

The second course includes **Oral Embryology, Oral Histology and Oral Physiology**. The study of development of the oral cavity is followed by the microscopic study of teeth, their supporting structures and the bones, joints and glands of the oral cavity. The function and clinical relevance of each structure is concurrently discussed.

## Course Requirements

Each student is expected to

1. maintain a practical notebook, with up to date record of all the practical sessions. This includes drawings and record of the experiments conducted during the year.
2. prepare a slide of a ground section of a tooth.
3. achieve a pass mark in the internal evaluation.
4. achieve a minimum of 75% attendance.

## Learning Resources

### Recommended Textbooks

Oral Histology- Development, Structure and Function by A.R. Ten Cate. 6<sup>th</sup> Edition

Orban's Oral Histology and Embryology. S.N. Bhaskar

Concise Dental Anatomy and Morphology. James L. Fuller.

Wheeler's Dental Anatomy and Morphology, Major M. Ash

### Reading List:

Oral Physiology for Dental Students. Johnson and Moore.

Oral Physiology. Chistopher Lavelle

An Atlas of Oral Antomy, Berkivtiz, G. R. Holland.

Course Description & Objectives:	Suggest ed Lecture Hours
<b>Tooth Morphology and Occlusion</b>	20
Define morphological terms related to teeth and oral cavity (nomenclature).	
Describe various tooth numbering and identification systems.	
Describe, draw and label, and identify all permanent and deciduous teeth and their pulp systems.	
Differentiate between permanent and deciduous teeth.	

Compare occlusion at the time of primary, mixed and permanent dentitions.	
<b>Oral Embryology, Histology &amp; Physiology</b>	40
Describe embryological development of the oral cavity including the teeth, nasomaxillary complex, palate, maxillary sinus, mandible and TMJ. Relate clinically to developmental anomalies. <i>Note: General human development and the outline of head and neck embryology is studied in Anatomy.</i>	
Draw and label different developmental stages of a tooth and its associated structures. Name the function of each labeled structure.	
Detailed development, structure and function of the following oral tissues: enamel, dentin, pulp, cementum, periodontal ligament, alveolar bone, oral mucosa, salivary glands (saliva), temporomandibular joint	
Discuss the theories of dentin sensitivity	
Explain the process of eruption, shedding, pre and post eruptive tooth movements.	
Describe the life cycle of a tooth. Discuss age changes in oral tissues. Explain the process of repair and regeneration of oral tissues.	
Explain the mechanisms of mastication, swallowing and taste perception. <i>Note: Mastication and swallowing studied in Physiology. Only revision needed.</i>	
<b>Oral Biology Practicals</b>	
<b>Practical experiments</b> may be included Perform ground sectioning of teeth, Estimation of salivary flow rates, interincisal distances, attached gingival width, molar/dental relationships, taste areas, dentin sensitivity and exfoliate cytology.	

## **SYLLABUS / COURSE DETAILS FOR:**

### **ISLAMIYAT & PAKISTAN STUDIES;**

#### **PAKISTAN STUDIES:**

**Refers to the discipline that encompasses the study of culture, demographics, geography, history, and politics of Pakistan.**

**PAKISTAN STUDIES:** Suggested Lecture Hours = 25

The role of sufis and saints in the spread of Islam in the subcontinent.

Shah Waliullah and Tehrik – I – Mujahidin.

The war of Independence 1857.

Sir Syed Ahmed Khan and two nation theory.

The Aligarh Movement.

The Muslim League.

The Nehru report and Quaid-I-Azam 14 points.