



**Institute of Dentistry,**  
**CMH Lahore Medical College**  
**Study Guide 2021/22**  
**PERIODONTOLOGY**  
**deaniod@cmhlahore.edu.pk**

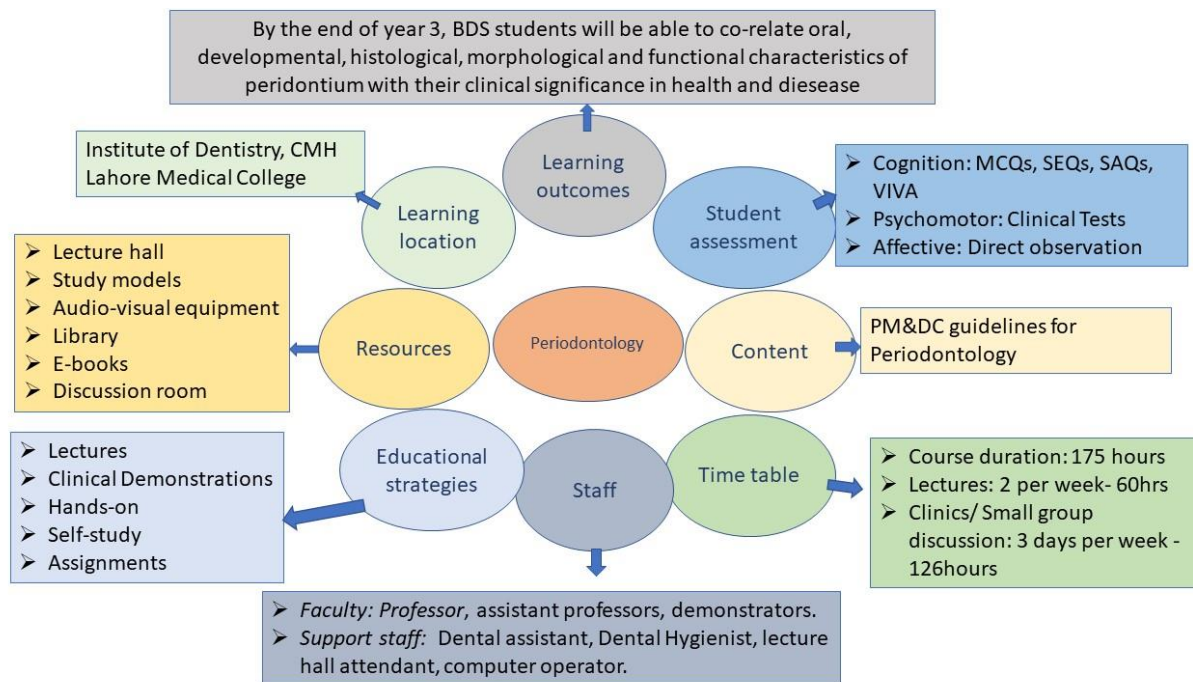
## **Introduction to Periodontology**

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# INTRODUCTION TO PERIODONTOLOGY

**Periodontology** is the specialty of dentistry that studies supporting structures of teeth, as well as diseases and conditions that affect them. The supporting tissues are known as the periodontium, which includes the gingiva (gums), alveolar bone, cementum, and the periodontal ligament.

## CURRICULAR MAP OF PERIODONTOLOGY



## Resources

- a. Teaching resources
- b. Infrastructure resources

### Teaching resources

Sr. #.	Faculty Name	Department as per PM & DC certificate	Qualification
1	Dr. Yousaf Athar	Associate professor	BDS, MSc
2	Dr. Hassan Abbas Khan	Demonstrator	BDS
3	Dr. Omaima Javed	Demonstrator	BDS
4	Dr. Manahil Javed	Demonstrator	BDS

## Infrastructure resources

Sr. #.	Infrastructure Resources	Quantity
1	Operating Halls	• 1
2	Dental Units <ul style="list-style-type: none"><li>• Periodontology clinic</li></ul>	• 19
3	Dental Stools <ul style="list-style-type: none"><li>• Periodontology</li></ul>	• 20
5	Reception	1
6	Mini Library	1
7	Staff Room	1
8	Dental stores	1

## Supporting staff

<b>Serial No.</b>	<b>Name</b>	<b>Designation</b>
1	Najam Ejaz	Dental Hygienist
2	Akif Sajid	Dental Hygienist
3	Farooq Ali	Dental Assistant

## **Teaching and Learning Strategies**

Multiple educational methods will be used comprising of self-study, interactive lectures, group discussions, practical, and manual dexterity skill sessions.

### (i) Methods for achieving cognitive objectives

- Interactive lectures using audio visual aids on power point presentation
- Group discussions in form of large group and small group
- Collaborative learning
- Self-study and reading from learning resources

### (ii) Methods for achieving psychomotor objectives

- Theoretical information provided in lectures
- Clinical demonstrations provided by teaching faculty on models and patients
- Supervised practice on patients

### (iii) Methods for achieving affective objectives

- Interaction with peers, group members, teachers, support staff etc.
- Group discussions (small and large)
- Oral presentations by students

## **Learning Methodologies**

The following teaching /learning methods are used to promote better understanding:

- Interactive lectures
- Clinics/ Practical
- Skill sessions
- Small group discussions
- Self-directed learning
- Assignments
- Oral presentations by students

### **Interactive lectures**

In large group, the lecturer introduces a topic which explains the underlying phenomena through questions, pictures, exercise, etc. Students are actively involved in the learning process.

### **Small group discussions**

This format helps students to clarify concepts and acquire skills and attitudes. Students exchange opinions and apply knowledge gained from lectures and self-study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

### **Practical**

In practical sessions students observe demonstrations from faculty members on proper instrument use and handling both inside and outside the patients mouth. The students are trained in diagnosing and treating a periodontal disease as per protocols set by the department.

### **Skill session**

Students are required to practice suturing techniques on inanimate materials.

### **Self- directed learning**

Students' take responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours or afterwards for self-study.

### **Assignments**

Students are given written formative assignments on designated topics. Revision of the topics already covered by anatomy and physiology departments are given to students as oral presentations.

### **Oral presentations by students**

Students are assigned topics during revision session to enhance their communication skills and group learning.



## CURRICULUM IMPLEMENTATION

Curriculum implementation refers to putting into practice the official document including course content, objectives, learning and teaching strategies. Implementation process helps the learner to achieve knowledge, skills and attitudes required of the learning tasks. Learners are a pertinent component of the implementation process. Implementation occurs when the learner achieves the intended learning experiences, knowledge, ideas, skills and attitudes which are aimed to make the learner an effective part of the society. Curriculum implementation also refers to the stage at which curriculum is put into effect. There has to be an implementing agent as well. Teacher is an important part of this process and implementation of the curriculum is the way the teacher selects and utilizes various components of the curriculum. Implementation occurs when the teacher's formulated course content, teacher's personality and teaching and learning environment interact with the learners. Therefore, curriculum implementation is how the officially planned course of study is translated and reflected by the teacher into schemes of work, lesson plans, syllabus and resources are effectively transferred to the learners. Curriculum implementation can be affected by certain factors such as teachers, learners, learning environment, resource materials and facilities, culture and ideology, instructional supervision and assessments.

Personnel involved in teaching and facilitation

**(i) Lectures delivery by:**

Dr Yousaf Athar (Associate Professor)

**(ii) DEMONSTRATORS for practical and small group discussion sessions:**

Dr Hassan Abbas Khan

Dr Omaima Javed

Dr Manahil Javed

**(iii) Support staff:** 3 (2 Dental hygienists, 1 Dental Assistant)

**(iv) Computer assistant:** 1 as nominated by the college

# **Time frame**

## **Course duration:**

- Lectures: 36 weeks
- Clinical rotations: 9 weeks per rotation

## **Lectures:**

- Tuesday (9:00 to 10:00am)
- Thursday: (8:00 to 9:00 am)

## **Practical/ clinical visits:**

- Tuesday and Thursday (10:00 to 3:00 pm)
- Friday (10:00 to 3:00 pm) with 1 pm to 2 pm Prayer break

# Course Outline

## **Section - 1 The Normal Peridontium, Classification and Epidemiology of periodontal disease.**

This section deals with the basic anatomy and physiology of the peridontium and gives an overview of how to classify patients into different categories of periodontal disease. The incidence, distribution, and possible control of periodontal diseases and other factors relating to health are also included in this topic.

## **Section – 2 Etiology of periodontal disease**

This subject includes the role of microbiology in periodontal disease and its interaction with the host and its response in return. The influence of iatrogenic and systemic factors and dental deposits and how they contribute towards periodontal disease is also covered here.

## **Section – 3 Periodontal pathogenesis.**

This area deals with the pathogenesis of periodontal pocket, bone loss and explains the detail of the phases of gingival inflammation.

## **Section – 4 Periodontal diseases.**

This domain discusses in detail the diagnosis, pathogenesis, management and complications of various periodontal diseases including autoimmune and acute periodontal conditions.

## **Section – 5 Periodontal Examination, Diagnosis and Therapy**

This subject deals with the details of history taking, periodontal investigations and diagnosis. The instruments, procedures and chemotherapeutic agents used to manage the periodontal diseases non surgically are also covered under this topic.

## **Section – 6 Surgical Periodontology**

This subject deals with the details of periodontal surgery, which includes the armamentarium, preparation, techniques, and postoperative healing of curettage, gingivectomy, gingivoplasty and various flap and bone surgeries. It also includes regenerative and periodontal plastic and esthetic surgeries.

## **Section – 7 Dental Implants**

This topic involves the basic knowledge of dental implants for students at an undergraduate level teaching then the basic introduction, rationale, treatment planning and complications of implants.

## **Section – 8 Supportive Periodontal Care**

This subject deals with the explaining management of patient with periodontal disease post surgical and non-surgical treatment and maintaining their oral hygiene. Details of patient referral are also discussed is also covered under this domain.

## Topic and Exam Weightage

<b>Topic</b>	<b>Weightage (%age)</b>
<b>The Normal Peridontium and Classification and Epidemiology of Periodontal diseases</b>	<b>11</b>
<b>Etiology of Periodontal Disease</b>	<b>11</b>
<b>Periodontal Pathogenesis</b>	<b>11</b>
<b>Periodontal Disease</b>	<b>21</b>
<b>Periodontal Examination, Diagnosis and Therapy</b>	<b>11</b>
<b>Surgical Periodontology</b>	<b>11</b>
<b>Dental Implants</b>	<b>11</b>
<b>Supportive Periodontal Care</b>	<b>13</b>

<b>Topic</b>	<b>Lecture</b>	<b>Clinical</b>
	<b>Hour Weightage (hrs)</b>	<b>Hour Weightage (hrs)</b>
The Normal Peridontium and Classification and Epidemiology of Periodontal diseases	6.6	14
Etiology of Periodontal Disease	6.6	14
Periodontal Pathogenesis	6.6	14
Periodontal Disease	12.6	26.5
Periodontal Examination, Diagnosis and Therapy	6.6	14
Surgical Periodontology	6.6	14
Dental Implants	6.6	14
Supportive Periodontal Care	7.8	16.5
<b>Total</b>	<b>60</b>	<b>127</b>

TOPICS AND OBJECTIVES	FACULTY	LEARNING DOMAIN (CPA)	LEARNING STRATEGY	ASSESSMENT				
				Clinical	Viva	OSPE	NUMS MCQs	NUMS SEQs
<b>Periodontology</b>								
<b>1. THE NORMAL PERIDONTIUM, CLASSIFICATION AND EPIDEMIOLOGY OF PERIODONTAL DISEASES</b>						X	3	1
<ul style="list-style-type: none"> <li>Explain development of the tooth supporting apparatus</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/small group discussion					
<ul style="list-style-type: none"> <li>Explain anatomy of Peridontium</li> </ul>		C	Interactive lecture/small group discussion					
<ul style="list-style-type: none"> <li>Correlate the microscopic features and clinical features of the peridontium</li> </ul>		C	Interactive lecture/small group discussion					
<ul style="list-style-type: none"> <li>Understand the nerve and vascular supply of the peridontium</li> </ul>		C	Interactive lecture/small group discussion					
<ul style="list-style-type: none"> <li>Explain effects of Aging on the normal peridontium</li> </ul>		C	Interactive lecture					
<ul style="list-style-type: none"> <li>Explain gingival diseases ( plaque and non plaque induced gingivitis and periodontitis along with classificaton</li> </ul>		CPA	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Discuss developmental and acquired deformities along with mucogingival deformities around teeth</li> </ul>		C	Interactive lecture/small group discussion					

<ul style="list-style-type: none"> <li>Discuss the definition of epidemiology.</li> </ul>		C	Interactive lecture/small group discussion					
<ul style="list-style-type: none"> <li>Explain how to diagnose periodontal diseases and difference between chronic and aggressive periodontitis</li> </ul>		C	Interactive lecture/small group discussion					
ETIOLOGY OF PERIODONTAL DISEASE						X	3	1
PERIODONTAL MICROBIOLOGY								
<ul style="list-style-type: none"> <li>Discuss diversity of intraoral surfaces for bacterial adhesion and structure and composition of dental plaque</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Discuss plaque formation at ultrastructural level and growth dynamics of plaque</li> </ul>		C	Interactive lecture/ small group discussion					
<ul style="list-style-type: none"> <li>Discuss different properties of dental plaque and association of plaque micro organisms with periodontal diseases</li> </ul>		C	Interactive lecture/small group discussion					
<ul style="list-style-type: none"> <li>Explain the role of calculus and other predisposing factors</li> </ul>		C	Interactive lecture/case-based discussion					
HOST RESPONSE AND HOST BACTERIAL INTERACTIONS								

<ul style="list-style-type: none"> <li>• Identification of cells of immunity and inflammation.</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/ small group discussion					
<ul style="list-style-type: none"> <li>• Discuss mechanism of migration and functioning of leucocytes</li> </ul>		C	Interactive lecture/ small group discussion					
<ul style="list-style-type: none"> <li>• Discuss different microbial aspects of microbial host interaction and microbiology and immunology in periodontal diseases</li> </ul>		C	Interactive lecture/ small group discussion					
<ul style="list-style-type: none"> <li>• Discuss toll like receptors and innate immunity response</li> </ul>		C	Interactive lecture/ small group discussion					
<ul style="list-style-type: none"> <li>• Discuss similarities between periodontal diseases and other chronic inflammatory diseases</li> </ul>		C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>• Discuss host response and potential targets for host modulation</li> </ul>		C	Interactive lecture/ small group discussion					
<ul style="list-style-type: none"> <li>• Explain host modulatory therapy</li> </ul>		C	Interactive lecture/ small group discussion					
<b>SYSTEMIC FACTORS</b>								
<ul style="list-style-type: none"> <li>• Treatment of medically compromised patients</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					

<ul style="list-style-type: none"> <li>Influence of systemic disorders and stress on peridontium</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
IATROGENIC AND OTHER FACTORS								
<ul style="list-style-type: none"> <li>Overview of factors predisposing to periodontal disease (local and systemic)</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
DENTAL DEPOSITS								
<ul style="list-style-type: none"> <li>Explain origin, composition, formation and mode of attachment of calculus</li> </ul>		C	Interactive lecture/ small group discussion/ Clinics					
<ul style="list-style-type: none"> <li>Classify and differentiate supra and sub-gingival calculus</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Explain theories of mineralization</li> </ul>		C	Interactive lecture/ small group discussion / Clinics					
<ul style="list-style-type: none"> <li>Clinical significance of calculus</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Dental Stains, Materia Alba, Dental pellicle</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
PERIODONTAL PATHOGENESIS						X	3	1



GINGIVAL INFLAMMATION								
<ul style="list-style-type: none"> <li>Explain in detail the 4 stages of gingival Inflammation</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
PERIODONTAL POCKET								
<ul style="list-style-type: none"> <li>Define and Classify Periodontal Pocket</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Explain the clinical features, pathogenesis and pocket contents</li> </ul>		CPA	Interactive lecture/ small group discussion / Clinics					
<ul style="list-style-type: none"> <li>Histopathology of Soft and hard tissue wall of the periodontal pocket</li> </ul>		C	Interactive lecture/ small group discussion / Clinics					
<ul style="list-style-type: none"> <li>Treatment options for periodontal pocket</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
BONE LOSS AND PATTERNS OF BONE LOSS								
<ul style="list-style-type: none"> <li>Bone destruction caused by extension of gingival inflammation</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/ small group discussion / Clinics					
<ul style="list-style-type: none"> <li>Bone destruction caused by trauma from occlusion</li> </ul>			Interactive lecture/ small group discussion / Clinics					
<ul style="list-style-type: none"> <li>Bone destruction caused by systemic disorders</li> </ul>			Interactive lecture/ small group					

			discussion / Clinics					
<ul style="list-style-type: none"> <li>• Factors determining bone morphology in periodontal disease</li> <li>• Bone destruction patterns in periodontal disease</li> </ul>			Interactive lecture/ small group discussion / Clinics					
PERIODONTAL DISEASES						X	4	2
GINGIVITIS								
<ul style="list-style-type: none"> <li>• Explain clinical findings of gingivitis including gingival bleeding on probing, color changes, changes in consistency and surface texture</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>• Explain changes in position of gingiva and changes in gingival contour</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>• Role of Saliva</li> </ul>		CPA	Interactive lecture/ small group discussion / Clinics					
<ul style="list-style-type: none"> <li>• Explain the composition, formation and methods of collection of GCF</li> </ul>		CPA	Interactive lecture/ small group discussion / Clinics					

<ul style="list-style-type: none"> <li>Clinical significance of Sulcular fluid</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
ACUTE PERIODONTAL CONDITIONS								
<ul style="list-style-type: none"> <li>Explain the clinical features, microbiology involved, diagnosis, treatment and complications of pericoronitits</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Explain the clinical features, microbiology involved, diagnosis and treatment of Primary Herpetic Gingivostomatitis</li> </ul>		C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Explain the etiology, clinical features, microbiology involved, diagnosis and treatment of Necrotizing ulcerative Gingivitis</li> </ul>		C	Interactive lecture/case-based discussion					
DESQUAMATIVE GINGIVITIS								
<ul style="list-style-type: none"> <li>Diagnosis of Desquamative gingivitis</li> </ul>	Dr. Yousaf Athar		Interactive lecture/case-based					

<ul style="list-style-type: none"> <li>Diagnose, differentiate and treat Lichen Planus, Pemphigoid, Pemphigus Vulgaris, Chronic Ulcerative Gingivitis, Linear IgA disease, Lupus erythmatoses, Dermatitis Herpetiformis and Erythema Multiforme .</li> </ul>		C	discussion					
<ul style="list-style-type: none"> <li>Drug Eruptions</li> </ul>		C						
<ul style="list-style-type: none"> <li>Conditions mimicking Desquamative Gingivitis</li> </ul>		C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Classify Gingival Enlargements.</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
GINGIVAL ENLARGEMENTS								

<ul style="list-style-type: none"> <li>Explain the pathophysiology of different types of gingival enlargements</li> </ul>		C	Interactive lecture/ small group discussion / Clinics					
<ul style="list-style-type: none"> <li>Explain the microscopic and histopathological features.</li> </ul>		C	Interactive lecture/ small group discussion / Clinics					
<ul style="list-style-type: none"> <li>Determine a treatment plan for all types of Gingival Enlargements</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Management</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<b>CHRONIC PERIODONTITIS</b>								
<ul style="list-style-type: none"> <li>Explain and Correlate Clinical and histopathological features of Chronic Periodontitis</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Explain the disease distribution</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Management of Chronic Periodontitis</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Risk factors for disease</li> </ul>		CPA	Interactive lecture/case-based discussion/					

			Clinics					
AGGRESSIVE PERIODONTITIS								
<ul style="list-style-type: none"> <li>Clinical features, general characteristics, disease distribution, background and management of aggressive periodontitis</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Risk factors for disease</li> </ul>		C	Interactive lecture/case-based discussion/ Clinics					
NECROTISING ULCERATIVE GINGIVITIS AND PERIODONTITIS								
<ul style="list-style-type: none"> <li>Etiology, clinical features, microbiology involved, diagnosis and treatment of Necrotizing Ulcerative Gingivitis</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Etiology, clinical features, microbiology involved, diagnosis and treatment of Necrotizing Ulcerative Periodontitis</li> </ul>			Interactive lecture/case-based discussion					
TRAUMA FROM OCCLUSION								
<ul style="list-style-type: none"> <li>Acute and Chronic Trauma</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/case-based discussion					

<ul style="list-style-type: none"> <li>Primary and Secondary Trauma</li> </ul>			Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Consequences of trauma</li> </ul>		C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Tissue Response of trauma</li> </ul>			Interactive lecture/ small group discussion					
<ul style="list-style-type: none"> <li>Diagnosis of Occlusal trauma</li> </ul>		C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Occlusal adjustment</li> </ul>		C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Splinting</li> </ul>		C	Interactive lecture/case-based discussion					
PERIODONTAL MANIFESTATION OF SYSTEMIC DISEASES								
<ul style="list-style-type: none"> <li>Different systemic diseases are discussed with reference to their periodontal manifestations</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
PERIODONTAL EXAMINATION DIAGNOSIS AND THERAPY						X	3	1
PERIODONTAL EXAMINATION								
<ul style="list-style-type: none"> <li>History taking and Diagnosis</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					

<ul style="list-style-type: none"> <li>Periodontal screening and complete examination of oral cavity.</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
PERIODONTAL DIAGNOSIS								
<ul style="list-style-type: none"> <li>First and second visit of patient</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Differential diagnosis along with laboratory aids to clinical diagnosis</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
TREATMENT PLANNING AND PLAQUE CONTROL								
<ul style="list-style-type: none"> <li>Phases of periodontal treatment , retreatment of patient in case of reoccurrence</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Mechanical control of dental plaque</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Motivation , education and instruction</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Interdental cleaning</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Scaling and root planning with advantages and disadvantages</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics/					



			Skills session					
<ul style="list-style-type: none"> <li>Chemical control of dental plaque</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Chemotherapeutic agents for topical and systemic administration</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<b>INSTRUMENTATION</b>								
<ul style="list-style-type: none"> <li>Manual scaling instruments</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics/ Skills session					
<ul style="list-style-type: none"> <li>Ultrasonic scalers</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Surgical instruments</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<b>CHEMOTHEURAPEUTIC AGENTS</b>								
<ul style="list-style-type: none"> <li>Definitions</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Antibiotics in Periodontal Diseases</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Local Drug Delivery</li> </ul>		C	Interactive lecture/case-					

			based discussion/ Clinics					
PERIODONTAL THERAPY (NON SURGICAL)								
<ul style="list-style-type: none"> <li>Proper history diagnosis and examination of patient</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Complete periodontal charting</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics/ Skills session					
<ul style="list-style-type: none"> <li>Scaling and Root planing</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics/ Skills session					
<ul style="list-style-type: none"> <li>Follow up</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
SURGICAL PERIODONTOLOGY						X	3	1
GENERAL PRINCIPLES OF PERIODONTAL SURGERY								
<ul style="list-style-type: none"> <li>Equipment, Pre op management, Anesthesia</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Periodontal dressings</li> </ul>		C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Post op instructions, complications and Management</li> </ul>		CPA	Interactive lecture/case-based discussion/ discussion/					

			Clinics						
<ul style="list-style-type: none"> <li>• Indications and Contraindications</li> </ul>		C	Interactive lecture/case-based discussion						
SURGICAL PROCEDURES									
<ul style="list-style-type: none"> <li>• Curettage – Rationale, indication, procedure, post treatment healing</li> </ul>	Dr. Yousaf Athar	CPA	Interactive lecture/case-based discussion/ Clinics/ Skills session						
<ul style="list-style-type: none"> <li>• Gingivectomy – indication, contraindications, procedure, types</li> </ul>		C	Interactive lecture/case-based discussion						
<ul style="list-style-type: none"> <li>• Gingivoplasty - indication, contraindications, procedure</li> </ul>		C	Interactive lecture/case-based discussion						
<ul style="list-style-type: none"> <li>• Flap surgery – Classification, designs, incisions, suturing, post treatment healing, flap techniques, sutures</li> </ul>		C	Interactive lecture/case-based discussion						
<ul style="list-style-type: none"> <li>• Osseous surgery – Rationale, Factors, Technique, steps involved, armamentarium, post op maintenance</li> </ul>		Dr. Yousaf Athar	C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>• Regenerative Periodontal Therapy- GTR, GBR, grafts</li> </ul>		C	Interactive lecture/case-based discussion						
<ul style="list-style-type: none"> <li>• Furcation Involvement – Anatomy, Diagnosis, Factors</li> </ul>		CPA	Interactive lecture/case-based discussion/						

affecting, Classification, Treatment Options, prognosis			Clinics/ Skills session					
<ul style="list-style-type: none"> <li>Esthetic and Plastic Periodontal Surgery – objectives, factors affecting outcome, techniques to remove frenum, deepen vestibule, increase attached gingiva.</li> </ul>		C	Interactive lecture/case-based discussion					
DENTAL IMPLANTS						X	3	1
<ul style="list-style-type: none"> <li>Basic Introduction and Rationale of Dental implants</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Treatment Planning</li> </ul>		C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Complications</li> </ul>		C	Interactive lecture/case-based discussion					
SUPPORTIVE PERIODONTAL CARE						X	3	1
<ul style="list-style-type: none"> <li>Rationale for supportive periodontal treatment</li> </ul>	Dr. Yousaf Athar	C	Interactive lecture/case-based discussion					
<ul style="list-style-type: none"> <li>Maintenance Program</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Classification of post treatment patients</li> </ul>		C	Interactive lecture/case-based discussion					

<ul style="list-style-type: none"> <li>Referral of patient to the periodontist</li> </ul>		CPA	Interactive lecture/case-based discussion/ Clinics					
<ul style="list-style-type: none"> <li>Splinting of the teeth</li> </ul>		C	Interactive lecture/case-based discussion					

## Learning resources

Topics	Resources
<p>The Normal Peridontium Classification of Periodontal Disease and Epidemiology</p>	<ul style="list-style-type: none"> <li>• Clinical periodontology by Glickman</li> <li>• Clinical Periodontology by Manson</li> <li>• Colour Atlas of Clinical Surgical Periodontology by Strahan &amp; White</li> <li>• A text book of clinical periodontology by Jan Lindhe</li> <li>• Fundamentals of Periodontics by Thomas G Wilson, Kenneths Komman</li> <li>• Periodontology and Periodontics, Modern Theory and Practice by Sigurd P. Ramford Major M. Ash</li> </ul>
<p>Etiology of Periodontal disease</p>	<ul style="list-style-type: none"> <li>• Clinical periodontology by Glickman</li> <li>• Clinical Periodontology by Manson</li> <li>• Colour Atlas of Clinical Surgical Periodontology by Strahan &amp; White</li> <li>• A text book of clinical periodontology by Jan Lindhe</li> <li>• Fundamentals of Periodontics by Thomas G Wilson, Kenneths Komman</li> <li>• Periodontology and Periodontics, Modern Theory and Practice by Sigurd P. Ramford Major M. Ash</li> </ul>
<p>Periodontal Pathogenesis</p>	<ul style="list-style-type: none"> <li>• Clinical periodontology by Glickman</li> <li>• Clinical Periodontology by Manson</li> <li>• Colour Atlas of Clinical Surgical Periodontology by Strahan &amp; White</li> <li>• A text book of clinical periodontology by Jan Lindhe</li> <li>• Fundamentals of Periodontics by Thomas G Wilson, Kenneths Komman</li> <li>• Periodontology and Periodontics, Modern Theory and Practice by Sigurd P. Ramford Major M. Ash</li> </ul>
<p>Periodontal Disease</p>	<ul style="list-style-type: none"> <li>• Clinical periodontology by Glickman</li> <li>• Clinical Periodontology by Manson</li> <li>• Colour Atlas of Clinical Surgical Periodontology by Strahan &amp; White</li> <li>• A text book of clinical periodontology by Jan Lindhe</li> <li>• Fundamentals of Periodontics by Thomas G Wilson, Kenneths Komman</li> <li>• Periodontology and Periodontics, Modern</li> </ul>

	<p>Theory and Practice by Sigurd P. Ramford Major M. Ash</p>
<p>Periodontal Examination, Diagnosis and Therapy</p>	<ul style="list-style-type: none"> <li>• Clinical periodontology by Glickman</li> <li>• Clinical Periodontology by Manson</li> <li>• Colour Atlas of Clinical Surgical Periodontology by Strahan &amp; White</li> <li>• A text book of clinical periodontology by Jan Lindhe</li> <li>• Fundamentals of Periodontics by Thomas G Wilson, Kenneths Komman</li> <li>• Periodontology and Periodontics, Modern Theory and Practice by Sigurd P. Ramford Major M. Ash</li> </ul>
<p>Surgical Periodontology</p>	<ul style="list-style-type: none"> <li>• Clinical periodontology by Glickman</li> <li>• Clinical Periodontology by Manson</li> <li>• Colour Atlas of Clinical Surgical Periodontology by Strahan &amp; White</li> <li>• A text book of clinical periodontology by Jan Lindhe</li> <li>• Fundamentals of Periodontics by Thomas G Wilson, Kenneths Komman</li> <li>• Periodontology and Periodontics, Modern Theory and Practice by Sigurd P. Ramford Major M. Ash</li> </ul>
<p>Dental Implantology</p>	<ul style="list-style-type: none"> <li>• Clinical periodontology by Glickman</li> <li>• Clinical Periodontology by Manson</li> <li>• Colour Atlas of Clinical Surgical Periodontology by Strahan &amp; White</li> <li>• A text book of clinical periodontology by Jan Lindhe</li> <li>• Fundamentals of Periodontics by Thomas G Wilson, Kenneths Komman</li> <li>• Periodontology and Periodontics, Modern Theory and Practice by Sigurd P. Ramford Major M. Ash</li> </ul>
<p>Supportive Periodontal Care</p>	<ul style="list-style-type: none"> <li>• Clinical periodontology by Glickman</li> <li>• Clinical Periodontology by Manson</li> <li>• Colour Atlas of Clinical Surgical Periodontology by Strahan &amp; White</li> <li>• A text book of clinical periodontology by Jan Lindhe</li> <li>• Fundamentals of Periodontics by Thomas G Wilson, Kenneths Komman</li> <li>• Periodontology and Periodontics, Modern Theory and Practice by Sigurd P. Ramford Major M. Ash</li> </ul>

## OTHER LEARNING RESOURCES

<b>Clinics / Practical</b>	Students will be involved in clinical work in the periodontology clinic
<b>Videos</b>	Video familiarize the student with the procedures and protocols to assist patients
<b>Computer Lab/CSs/DVDs/ Internet Resources:</b>	To increase the knowledge, students should utilize the available internet resources and CDs/ DVDs. This will be an additional advantage to increase learning.
<b>Self Learning</b>	Self Learning is scheduled to search for information to solve cases, read through different resources and discuss among the peers and with the faculty to clarify the concepts.



## **ASSESSMENT METHODS:**

### **Internal Assessment**

- a. Weightage of internal assessment shall be 10 %, each for theory and practical, in BDS Professional Examination.
- b. The Internal Assessment shall comprise of monthly test / PBL / assignments / Clinical tests / clinical vivas etc
- c. The Internal Assessment record shall be kept in the respective department of the College / Institute and after approval of Principal, a summary as per University registration number shall be furnished to the Controller of Examinations, at least two weeks before the commencement of final examination.
- d. The result of all the class tests / tools which contribute towards IA will be displayed to the students during an academic year.
- e. The same internal assessment shall be counted both for annual and supplementary examinations. The students who are relegated, however, can improve the internal assessment during subsequent year
- f. Internal assessment tools of any subject may be changed after the approval of respective FBS

### **Annual Examination**

- a. The weightage of Annual Examination shall be 90%, each for theory and practical, in BDS.
- b. The examination comprises of a theory paper and practical/clinical examinations as per PM&DC regulations and the Table of Specifications(TOS) of the University.
- c. The gap between two consecutive theory papers shall not be more than two days.
- d. The Theory Paper shall be of 3-hours duration, held under the arrangements of the university. It shall have two parts; MCQs (30%) and SAQs/SEQs (70 %) for the year 2018. It may be changed after the approval of Academic Council.
- e. Allocated time for MCQs for 2019 shall be as under:

25 MCQs	-	30 Minutes
30 MCQs	-	40 Minutes
40 MCQs	-	50 Minutes
45 MCQs	-	60 Minutes
- f. Each MCQs shall have four distractors
- g. The distribution of SAQs/SEQs as well as MCQ difficulty levels for BDS annual examinations is as under: -

Sr. No	Topic	No of MCQs (25) (C1=10, C2=7, C3=8) 01 mark each	<ul style="list-style-type: none"> <li>• No. of SAQs/SEQs (09) 05xSAQs/SEQs(C1 &amp; C2)=7 marks each</li> <li>• 03xSAQ/SEQs(C3)=7 marks each</li> <li>• 01xSAQs/SEQs(C3)=9 marks each</li> </ul>
1	The Normal Peridontium	03	01
2	Classification of periodontal disease and epidemiology		
3	Etiology of periodontal disease <ul style="list-style-type: none"> <li>• Periodontal microbiology</li> <li>• Host response and host bacterial interactions</li> <li>• Iatrogenic and other local factors</li> <li>• Systemic factors</li> <li>• Dental deposits</li> </ul>	03	
4	Periodontal pathogenesis <ul style="list-style-type: none"> <li>• Gingival inflammation</li> <li>• Periodontal pocket</li> <li>• Bone loss and patterns of bone loss</li> </ul>	03	01
5	Periodontal diseases <ul style="list-style-type: none"> <li>• Gingivitis</li> <li>• Acute periodontal conditions</li> <li>• Desquamative gingivitis</li> <li>• Chronic enlargement</li> <li>• Gingival growth</li> <li>• Chronic periodontitis</li> <li>• Aggressive periodontitis</li> <li>• NUP , NUP</li> <li>• Trauma from occlusion</li> <li>• Systemic disease with periodontal manifestation</li> </ul>	04	02
6	Periodontal examination , diagnosis and therapy	03	01

	<ul style="list-style-type: none"> <li>• Periodontal examination</li> <li>• Periodontal diagnosis</li> <li>• Treatment planning</li> <li>• Plaque control</li> <li>• Instrumentation</li> <li>• Chemotheurapeutic agents</li> <li>• Periodontal therapy (non surgical)</li> </ul>		
<b>7</b>	<p>Surgical periodontology</p> <ul style="list-style-type: none"> <li>• Surgical curettage</li> <li>• Gingivectomy , gingiveoplasty</li> <li>• Flap surgery</li> <li>• Osseous surgery , regenerative periodontal therapy , GTR</li> <li>• Furcation involvement</li> <li>• Esthetic and plastic periodontal surgery</li> </ul>	03	01
<b>8</b>	Dental implants-basic intro , rationale , treatment planning , complications	03	01
<b>9</b>	<p>Supportive periodontal care</p> <ul style="list-style-type: none"> <li>• Rationale for supportive periodontal treatment</li> <li>• Maintenance program</li> <li>• Classification of post treatment patients</li> <li>• Referral of patient to the periodontist</li> <li>• Splinting of teeth</li> </ul>	03	01
<b>Total</b>		25 (25 marks)	09 (65 marks)
<b>Grand Total</b>		<b>90 Marks</b>	

**Internal assessment calculation (Theory/ Annual)**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>F</b>	<b>G</b>
Roll No.	Name	All modules/ Pre Annual Exams or any other exam			Total Marks of internal assessment out of 10
<b>Total Marks</b>		<b>Sum of Marks obtained x 10 / sum of total marks in all exams</b>			

**Table of specifications for Annual Professional Exam: Practical**

<b>VIVA 50 marks</b>		<b>Practical / Clinical 40 marks</b>				<b>Total</b>
Examiner 1	Examiner 2	Oral Examination and Diagnosis	History Taking	Scaling of teeth	Identification of Slides and Instruments	<b>90 Marks</b>
25 Marks	25 Marks	10 Marks	5 Marks	15 Marks	10 Marks	

**Internal assessment calculation (Practical)**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>F</b>	<b>G</b>
Roll No.	Name	OSPE/ Practical Class tests throughout the year / Pre annual Practical Exams or any other exam			Total Marks of internal assessment out of 10
<b>Total Marks</b>		<b>Sum of Marks obtained x 10 / sum of total marks in all exams</b>			

### **Multiple Choice Question (MCQs)**

- A multiple choice question (MCQ) consist of a stem that states the question or problem followed by a set of possible answers that contain an option that is best answer to the question.
- After reading the questions students should select the appropriate option from the given possible answers.
- The correct answer carries one mark and incorrect carries zero. There is no negative marking.

### **Sample MCQ**

The tooth supporting tissues are derived from

- a) Dental papilla
  - b) Dental follicle
  - c) Dental lamina
  - d) Hertwigs epithelial root sheath
  - e) Enamel knot
- key: b**

### **Short essay question (SEQs)**

- Short essay questions require students to present written answers that are used to asses basic knowledge of key facts and provide students with an opportunity to demonstrate reasoning and explain their understanding of the subject.

### **Sample SEQ**

A 29-year-old woman, medically fit and healthy, presented to your clinic with the complaint of food impaction in upper right jaw. On probing, you find a deep periodontal pocket between tooth # 14 and 15.

- a) Classify Periodontal Pockets. (2)
- b) Correlate the Clinical and Histo-pathological features of periodontal pocket. (5)

### **Key:**

a)

True and false/pseudo pocket

Supra and infra bony pockets

Gingival and periodontal pockets

Simple, compound and complex pockets

b)

	<b>Clinical Features</b>	<b>Histopathologic features</b>
1	Gingival wall of pocket presents various degrees of bluish red discoloration; flaccidity; a smooth, shiny surface; and pitting on pressure.	The discoloration is caused by circulatory stagnation; the flaccidity, by destruction of gingival fibres and surrounding tissues; the smooth, shiny surface. By atrophy or epithelium and edema; and the pitting on pressure, by edema and degeneration
2	Less frequently, gingival wall may be pink and firm.	In such cases, fibrotic changes predominate over exudation and degeneration, particularly in relation to outer surface of pocket wall. However, despite external appearance of health, inner wall of pocket invariably presents some degeneration and is often ulcerated (see figure 27-15)
3	Bleeding is elicited by gently probing soft tissue wall of pocket	Ease of bleeding results from increased vascularity, thinning and degeneration of epithelium and proximity of engorged vessels to inner surface
4	When explored with a probe, inner aspect of pocket is generally painful	Pain on tactile stimulation is caused by ulceration of inner aspect of pocket wall
5	In many cases, pus may be expressed by applying digital pressure	Pus occurs in pockets with supportive inflammation of inner wall

### **Internal Examiner**

He/she shall be Professor and Head of Department who has been involved in teaching of the class being examined for at least six months and has delivered 50% of the total lectures. Second preference shall be Associate/Assistant Professor who is involved in teaching of the class and posted there for one year. Third preference shall be a recognized Professor of the subject.

### **External Examiner**

He/she shall be a Professor/Associate Professor of a recognized Medical/Dental College or at least an Assistant Professor with three years teaching experience in the relevant subject.

### **Conflict of Interest**

No person shall serve as an examiner whose close relative (wife, husband, son, daughter, adopted son, adopted daughter, grand-son, grand-daughter, brother, sister, niece /nephew, son and daughter- in-law brother and sister- in-law, parental and maternal uncle and aunt etc) is appearing in the examination. All examiners likely to serve as an examiner shall render a certificate in compliance to this para.

### **Paper Setting**

- a. Each College / Institute shall forward a set of two question papers as per TOS along with the key for each subject to the Controller of Examinations, at least three months in advance of the annual examination. The question paper as a whole / a question without a comprehensive key shall not be considered towards final paper setting.
- b. The set of question papers shall be prepared by the respective Head of Department (HoD) and furnished to Controller of Examinations through Head of Institution (HoI)
- c. The Controller of Examinations shall approve the faculty for the final paper setting having fair representation of each college / institute.

### **Paper Assessment**

- a. The Controller of Examinations shall approve the faculty for the theory paper marking, to be undertaken in the manner as deemed appropriate.
- b. The Examination Directorate shall coordinate directly with the faculty, earmarked for the paper marking
- c. A student who scores 85% and above marks in any subject shall qualify for distinction in that particular subject.
- d. A fraction in aggregate marks of a subject shall be rounded off to whole number. If it is less than 0.5 then it will be rounded off to the previous whole number while 0.5 or more will be rounded off to the next whole number.

### **Practical / Clinical Examinations**

- a. The Controller of Examiners shall approve the faculty to serve as the internal & external examiners.
- b. The number of external and internal examiners shall be equal.
- c. One external & internal examiner each shall be marked for a group of 100 students.
- d. Candidates may be divided into groups in the clinical and practical examinations and be standardized by incorporating clinical exam
- e. Practical/clinical examination shall be held after the theory examination of the subject but in special cases, it may be held before the theory examination with the approval of the Controller of Examinations. For the purpose of practical/clinical examination, the candidates may be divided into sub groups by the examiners.
- f. The assessment of the practical / clinical examination duly signed by internal & external examiner shall be furnished to the Controller of Examinations within one week of the conclusion of examination

### **Pass Marks**

- a. Pass marks for all subjects less Islamic / Pakistan Studies, shall be 50 % in theory and practical, separately.
- b. Pass marks for Islamic / Pakistan Studies shall be 33 % which, however, shall not be counted towards final scoring of the professional examination.
- c. No grace marks shall be allowed to any student in any examination.

### **Declaration of Result.**

Every effort shall be made to declare the result of each examination within one month of the last practical examination or earlier.

### **Promotion.**

No student shall be promoted to the higher classes unless he/she passes all the subjects of the previous class

**Re-Totaling.**

Any student may apply to the Controller of Examinations on a prescribed form along with the specified fee.

**Supplementary Examination.**

The interval between a supplementary examination and the previous professional examination shall not be more than two months. There shall be no special supplementary examination.