

B.D.S FIRST YEAR

SUBJECT: DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

Teaching Scheme (Hours)				Credits	Examination Scheme				
Lec(L)	Prac(P)	Clinical(C)	Total		External		Sessional		Total
					Theory	Pract	Theory	Pract	
156	364	-	520	1	1	3	3	8	

A. COURSE OVERVIEW

After a course on Dental Anatomy including Embryology and Oral Histology,

1. The student is expected to appreciate the normal development, morphology, structure & functions of oral tissues & variations in different pathological/non-pathological states.
2. The student should understand the histological basis of various dental treatment procedures and physiologic ageing process in the dental tissues.
3. The students must know the basic knowledge of various research methodologies.

B. COURSE CONTENT

NO	TOPIC	L+P (hrs)	CLs
1	TOOTH MORPHOLOGY: Introduction to tooth morphology:	5+8	CL 1
2	TOOTH MORPHOLOGY : Morphology of permanent teeth	33+115	CL1,4,6
3	TOOTH MORPHOLOGY : Morphology of Deciduous teeth	8+35	CL1,4,5
4	TOOTH MORPHOLOGY : Occlusion :	6+17	CL1,5,6
5	ORAL EMBRYOLOGY :Development of teeth	6+11	CL2,4,5
6	ORAL EMBRYOLOGY :Eruption of deciduous & Permanent teeth	6+11	CL1,2,4
7	ORAL EMBRYOLOGY : Shedding of teeth	5+8	CL1,2,4
8	ORAL HISTOLOGY: Detailed microscopic study of Enamel, Dentine, Cementum & Pulp tissue	20+41	CL2,3,4,5
9	ORAL HISTOLOGY :Detailed microscopic study of Periodontal ligament & alveolar bone, age changes, histological changes in periodontal ligament & bone in normal & orthodontic tooth movement, applied aspects of alveolar bone resorption.	8+17	CL2,3,4,5
10	ORAL HISTOLOGY: Detailed microscopic study of Oral Mucosa, variation in structure in relation to functional requirements, mechanisms of keratinization, clinical parts of gingiva, Dentogingival & Mucocutaneous junctions & lingual papillae. Age changes & clinical considerations	10+17	CL2,3,4,5
11	ORAL HISTOLOGY :Salivary Glands	4+8	CL1,2,3,5
12	ORAL HISTOLOGY :TM Joint	4+8	CL1,2,3,5
13	ORAL HISTOLOGY : Maxillary Sinus	4+8	CL1,2,3,5
14	ORAL HISTOLOGY : Processing of Hard & soft tissues for microscopic study	4+8	CL2,3,5,6
15	ORAL HISTOLOGY: Basic histochemical staining patterns of oral tissues.	4+8	CL2,3,5,6
16	ORAL PHYSIOLOGY: Saliva	4+8	CL1,4
17	ORAL PHYSIOLOGY : Mastication :	4+8	CL1,4
18	ORAL PHYSIOLOGY : Deglutition	4+8	CL1,4
19	ORAL PHYSIOLOGY: Calcium, Phosphorous & fluoride metabolism	4+9	CL4

20	ORAL PHYSIOLOGY :Theories of Mineralization	4+9	CL4
21	ORAL PHYSIOLOGY :Physiology of Taste	4+9	CL2,4
22	ORAL PHYSIOLOGY : Physiology of Speech	4+9	CL4

C. TEXT BOOKS

D. REFERENCE BOOKS

1. S.N. Bhaskar; Orban's Oral Histology & Embryology, 15th edition, Elsevier publications, 2019.
2. James & Avery ; Oral Development & Histology, 3rd edition, Thyme publications, 2011.
3. Major M. Ash; Wheeler's Dental Anatomy, Physiology & Occlusion, 8th edition, Saunders publications, 2013.
4. Woelfel & Schel; Dental Anatomy - Its relevance in dentistry, 8th edition, Lippincott, Williams & Wilkins,2011.
5. Lavelle; Applied Physiology of the mouth, 2nd edition, Butterworth - Heinemann, 2013.
6. Jenkins; Physiology & Biochemistry of the mouth, 3rd edition, Wiley - Blackwell, 1978.

E. COMPETENCY LEVEL

CL Number	Skill	Statement
CL1	Knowledge	<ul style="list-style-type: none"> • Have knowledge about the normal development, morphology, structure & functions of oral tissues & variations in different pathological/non-pathological states. • The students must know the basic knowledge of various research methodologies
CL2	Investigations	<ul style="list-style-type: none"> • Microscopic study of Oral tissues
CL3	Patient Care: Diagnosis	<ul style="list-style-type: none"> • Should understand the histological basis of various dental treatment procedures and physiologic ageing process in the dental tissues.
CL4	Patient Care: Treatment planning	<ul style="list-style-type: none"> • Appreciate the normal development, morphology, structure & functions of oral tissues & variations in different pathological/non-pathological states.
CL5	Patient Care: Treatment	<ul style="list-style-type: none"> • Carving of crowns of permanent teeth in wax., Microscopic study of Oral tissues, Identification of Deciduous & Permanent teeth, Age estimation by patterns of teeth eruption from plaster casts of different age groups
CL6	Research and Innovation	<ul style="list-style-type: none"> • Upgradation of knowledge and skill from time to time, familiarize with new concept and equipment in this field.

CL 7	Evidence Based Learning	<ul style="list-style-type: none"> Consolidate all the above mentioned major competencies acquired during the course and integrate newer evidence based knowledge in displaying expertise in the science of DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY
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PROGRAM SPECIFIC OUTCOME (PSO)

PSO1	DIAGNOSIS	The student is expected to appreciate the normal development, morphology, structure & functions of oral tissues & variations in different pathological/non-pathological states.
PSO2	INVESTIGATIONS	Microscopic study of Oral tissues
PSO3	TREATMENT	The student should understand the histological basis of various dental treatment procedures and physiologic ageing process in the dental tissues.

F. COURSE MATRIX

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PO 13	PO 14	PO 15	PS O1	PS O2	PS O3
CL1	3	3	2	1	1	3	2	2	3	1	3	2	2	2	2	3	2	2
CL2	3	3	3	3	1	3	2	3	3	2	3	1	3	3	3	3	3	2
CL3	2	2	3	2	2	2	3	2	2	2	2	1	2	2	2	3	2	2

CL4	2	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3
CL5	3	3	3	2	1	2	1	3	1	1	2	1	3	1	1	3	3	3
CL6	1	3	3	1	1	1	1	2	2	1	1	1	1	1	1	3	2	2
CL7	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Avg	2.4	2.9	2.9	2.1	1.7	2.4	2.1	2.6	2.4	1.7	2.3	1.7	2.4	2.1	2.1	3.0	2.6	2.4