VINAYAKA MISSION'S RESEARCH FOUNDATION
(Deemed to be University under section 3 of the UGC Act 1956)

VINAYAKA MISSION'S SANKARACHARIYAR DENTAL COLLEGE

BDS CURRICULUM & SYLLABUS

AIMS & OBJECTIVES

Aims:

To create a graduate in Dental Science who has adequate knowledge, necessary skills and such attitudes which are required for carrying out all the activities appropriate to general dental practice involving the prevention, diagnosis and treatment of anomalies and diseases of the teeth, mouth, jaws and associated tissues. The graduate should also understand the concept of community oral health education and be able to participate in the rural health care delivery programmes existing in the country.

Objectives

The objectives are dealt under three headings namely

(a) Knowledge and understanding (b) skills and (c) attitudes.

(a) Knowledge and understanding

The student should acquire the following during the period of training.

1. Adequate knowledge of the scientific foundations on which dentistry is based and good understanding of various relevant scientific methods, principles of biological functions and should be able to evaluate and analyse scientifically various established facts and data.
2. Adequate knowledge of the development, structure and function of the teeth, mouth and jaws and associated tissues both in health and disease and their relationship and effect on general-state of health and also the bearing on physical and social well-being of the patient.
3. Adequate knowledge of clinical disciplines and methods, which provide a coherent picture of anomalies, lesions and diseases of the teeth, mouth and jaws and preventive, diagnostic and therapeutic aspects of dentistry.
4. Adequate clinical experience required for general dental practice.
5. Adequate knowledge of biological function and behavior of persons in health and sickness as well as the influence of the natural and social environment on the state of health so far as it affects dentistry.

(b) Skills

A graduate should be able to demonstrate the following skills necessary for practice of dentistry:

1. Able to diagnose and manage various common dental problems encountered in general dental practice, keeping in mind the expectations and the right of the society to receive the best possible treatment available wherever possible.
2. Acquire skill to prevent and manage complications if encountered while carrying out various dental surgical and other procedures.
3. Possess skill to carry out required investigative procedures and ability to interpret laboratory findings.

4. Promote oral health and help to prevent oral diseases wherever possible.
5. Competent in control of pain and anxiety during dental treatment.

(c) Attitudes

A graduate should develop during the training period the following attitudes.

1. Willing to apply current knowledge of dentistry in the best interest of the patients and the community.
2. Maintain a high standard of professional ethics and conduct and apply these in all aspects of professional life.
3. Seek to improve awareness and provide possible solutions for oral health problems and needs throughout the community.
4. Willingness to participate in the continuing education programmes to update knowledge and professional skills from time to time.
5. To help and to participate in the implementation of national of national health programmes.

PRINCIPLES:

To summarize,the principles of the basic dental education should be based on moral and ethical mores, as well as national rules and regulations. The basic dental education should graduate dentists capable of critical thinking, decision making and instill willingness for a lifelong learning. The new dentist should be able to carry out any kind of dental treatment without harm to patients using modern, appropriate, effective and currently accepted methods of treatment. In addition, the basic dental education should include the development of the social behavior and interpersonal communication skills with a variety of audiences to include patients, members of the dental team and colleagues. Sound dental practice management skills based on ethical principles are also critical.

SUBJECTS OF STUDY

I B.D.S	
Paper I	General Anatomy Including Embryology and Histology
Paper II	General Human Physiology / Bio-Chemistry
Paper III	Dental Anatomy, Embryology and Oral Histology
Paper IV	Environmental Studies
II B.D.S	
Paper I	General Pathology / General Microbiology
Paper II	General Dental Pharmacology and Therapeutics
Paper III	Dental Materials
Paper IV	Pre-Clinical – Prosthodontics
Paper V	Pre-Clinical - Conservative Dentistry and Endodontics
III	
Paper I	General Medicine
Paper II	General Surgery
Paper III	Oral Pathology and Oral Microbiology
Paper IV	Dental Engineering (11th BOS) implemented from 2021 Batch onwards
IV B.D.S.	
Paper I	Oral Medicine and Radiology
Paper II	Pediatric and Preventive Dentistry
Paper III	Orthodontics and Dentofacial Orthodontics
Paper IV	Periodontology
Paper V	Prosthodontics and Crown and Bridge
Paper VI	Conservative Dentistry and Endodontics
Paper VII	Oral & Maxillofacial Surgery
Paper VIII	Public Health Dentistry

MINIMUM WORKING HOURS FOR EACH SUBJECT OF STUDY

S.NO	SUBJECT	THEORY	PRACTICAL/ CLINICAL	TOTAL HOURS
1.	General Anatomy Including Embryology and Histology	100	175	275
2.	General Human Physiology	120	60	180
3.	Bio-Chemistry	70	60	130
4.	Dental Anatomy, Embryology and Oral Histology	105	250	355
5.	Environmental Studies	60	-	60
6.	General Pathology	55	55	110
7.	General Microbiology	65	50	115
8.	General Dental Pharmacology and Therapeutics	70	20	90
9.	Dental Materials	80	240	320
10.	Pre-Clinical – Prosthodontics	25	300	325
11.	Pre-Clinical - Conservative Dentistry and Endodontics	25	200	225
12.	Oral Pathology and Oral Microbiology	25	50	75
13.	General Medicine	60	90	150
14.	General Surgery	60	90	150
15.	Oral Pathology and Oral Microbiology	120	80	200
16.	Dental Engineering (11th BOS)	30	18	48
17.	Oral Medicine & Radiology	65	170	235
18.	Pediatric and Preventive Dentistry	65	170	235
19.	Orthodontics and Dentofacial Orthopaedics	50	170	220
20.	Periodontology	80	170	250
21.	Prosthodontics and Crown and Bridge	110	370	480
22.	Conservative Dentistry and Endodontics	110	370	480
23.	Oral & Maxillofacial Surgery	70	270	340
24.	Public Health Dentistry	60	200	260

5308 HOURS

TEACHING HOURS

I BDS

SI. No.	Subjects	Lecture (hrs)	Practical (hrs)	Clinical (hrs)	Total (hrs)
1.	General Human Anatomy including Embryology and Histology	100	175	—	275
2.	General Human Physiology	120	60	—	180
3.	Biochemistry, Nutrition and Dietetics	70	60	—	130
4.	Dental Anatomy, Embryology and Oral histology	105	250	—	355
5.	Environmental sciences	60	-	--	60
6.	Dental Materials	20	40	—	60
7.	Pre clinical Prosthodontics and Crown & Bridge	--	100	--	100
	Total	475	685	—	1160

II B.D.S.

SI. No.	Subjects	Lecture (hrs)	Practical (hrs)	Clinical (hrs)	Total (hrs)
1.	General Pathology	55	55	—	110
2.	General Microbiology	65	50	—	115
3.	General and Dental Pharmacology & Therapeutics	70	20	—	90
4.	Dental Materials	60	200	—	260
5.	Pre clinical Prosthodontics and Crown & Bridge	25	200	—	225
6.	Pre clinical Conservative Dentistry	25	200	—	225
7.	Oral Pathology &Oral Microbiology	25	50	—	75
	Total	325	775	—	1100

III B.D.S.

SI. No.	Subjects	Lecture (hrs)	Practical (hrs)	Clinical (hrs)	Total (hrs)
1.	General Medicine	60	—	90	150
2.	General Surgery	60	—	90	150
3.	Oral Pathology and Oral Microbiology	120	80	0	200
4.	Dental Engineering (11th BOS)	30	18	0	48
5.	Oral Medicine and Radiology	15	—	60	75
6.	Public Health Dentistry	10	—	30	40
7.	Orthodontics & Dentofacial Orthopaedics	20	—	60	80
8.	Periodontology	30		60	90
9.	Oral & Maxillofacial Surgery	20	—	110	130
10.	Pediatric and Preventive Dentistry	25	—	60	85
11.	Conservative Dentistry and Endodontics	30	—	70	100
12.	Prosthodontics and Crown & Bridge	40		70	110
	Total	460	98	700	1258

Final B.D.S.

SI. No.	Subjects	Lecture (hrs)	Practical (hrs)	Clinical (hrs)	Total (hrs)
1.	Oral Medicine & Radiology	50	—	110	160
2.	Public Health Dentistry	60		200	260
3.	Orthodontics & Dentofacial Orthopaedics	30	—	110	140
4.	Periodontology	50	—	110	160
5.	Oral & Maxillofacial Surgery	50	—	160	210
6	Paediatric and Preventive Dentistry	40	--	110	150
7.	Conservative Dentistry and Endodontics	80		300	380
8.	Prosthodontics and Crown & Bridge	70	—	300	370
	Total	430	—	1390	1830

SI. No.	Subjects (I- IV yr)	Lecture (hrs)	Practical (hrs)	Clinical (hrs)	Total (hrs)
	TOTAL	1690	1558	2090	5348

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ASSESMENT

Blueprint - ANATOMY

University practical examination total marks: 100

Practical Exercises: 80 marks (40 spotters X 2 marks)

Gross: 25 spotters (15 Head and Neck + 3- Neuroanatomy +7 Thorax and Abdominal organs)

Histology: 15 spotters (05 General histology + 10 Systemic histology)

Record: 10 marks

Internal assessment practicals: 10 marks

University theory examination total marks: 100

Theory: 70 marks

Viva voce: 20 marks (Osteology & Embryology)

Internal assessment theory: 10 marks

The Anatomy Theory Paper shall consist of two sections as follows:

Section A: 35 marks	Section B: 35 marks
• Gross anatomy of head • General anatomy • General histology • General embryology • Genetics	• Gross anatomy of neck • Systemic histology • Systemic embryology • Gross anatomy of neuroanatomy

Section A

S. No.	Topic	Essay (1X10=10marks)	SAQ (3X5=15 marks)	MCQs (10X1=10 marks)	35 Marks
1.	Gross Anatomy of head	1X10=10	2X5=10 (region not covered in	4X1 =04 (Gross anatomy of head region not	24

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			Essay)	covered in Essay/SAQ)	
2.	General anatomy			2X1=02 mark	02
2.	General histology		1X5=05 marks	2X1=02 mark	07/02
3.	General embryology			1X1=01 mark	06/01
4.	Genetics			1X1=01 mark	01
	Total	10	15	10	35

Section B

S. No.	Topic	Essay (1X10=10marks)	SAQ (3X5=15 marks)	MCQs (10X1=10 marks)	35 Marks
1.	Gross anatomy of neck	1X10=10 marks	1X5=05 marks (Gross Anatomy of neck region not covered in Essay)	4X1=04 marks (Gross Anatomy of neck region not covered in Essay/SAQ)	19
2.	Systemic histology		1X5=05 marks	2X1=02 mark	07/02
3.	Systemic embryology			2X1=02 mark	07/02
4.	Gross anatomy of neuroanatomy		1X5=05 marks	2X1=02 mark	07
	Total	10	15	10	35

DEPARTMENT OF PHYSIOLOGY

I BDS (2018-19Batch) Blue Print

Question paper pattern and mark distribution

S. No	Topics	Essay (1X10= 10 Marks)	Short notes (3X5=15marks)	MCQs (10X1=10marks)	TOTAL MARKS
1	CVS/Endocrinology/CNS	1X10=10 (CVS /Endocrinology/ CNS)		-------	10
2	From system not included in essay and Renal system / Respiratory physiology & GIT	----------	3 X 5 = 15	----------	15
3	Blood		-------	2 X1 =2	02
4	Nerve muscle physiology		-------	2 X1 =2	02
5	General physiology	---	-------	2 X1 =2	02
6	Reproductive system	---	-------	2 X1 =2	02
7	Special senses	-------	--------	2 X1 =2	02
	TOTAL	**10**	**15**	**10**	**35**

Blue Print for Practical Exams Total 40 Marks

1.	Long Experiment	20 Marks
2.	Short Experiments	10Marks
3.	Charts / Calculation	10Marks
4.	Record	5 Marks
5.	Internal Assessment	5 Marks

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		KNOWLEDGE					SKILLS
S.No	**Topics**	**Essay (1X10=10 Marks)**	**SAQ (3X5=15 Marks)**	**MCQs (10X1=10 Marks)**	**Total Marks (Theory paper)**	**Viva**	**Practical**
1	Carbohydrates/ Proteins/ Vitamins	1X10=10	——	2	12	10	
2	Lipids Enzymes Hemoglobin Nucleic acid chemistry & metabolism Acid base balance Function tests Minerals Carbohydrates Proteins * Vitamins	——	3X5=15	3	18		
3	Cancer, Tumour markers & AIDS			1	1		
4	Cell & Body fluids			1	1		
5	Energy & Nutrition			1	1		
6	Free radicals & Detoxification			1	1		
7	METC			1	1		
8	*Quantitative*						15
9	*Qualitative*						10
10	*Spotters*						10
11	*Charts*						5
TOTAL					**35**	**10**	**40**

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DEPARTMENT OF BIOCHEMISTRY

Section – B: BIOCHEMISTRY

Includes Topics from which essay question will not be asked.

Internal Assessment (Theory) = 5 Marks

Internal Assessment (Practical) = 5 Marks

Record work = 5 Marks

DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

The paper shall consist of two sections as follows:

Section A: ORAL HISTOLOGY - 35 marks

Section B: TOOTH MORPHOLOGY, ORAL ANATOMY AND ORAL PHYSIOLOGY - 35 marks

Pattern

LAQ= Long Answer Question

SAQ= Short Answer Question

MCQ= Multiple Choice Question

Each paper shall contain the structure as follows:

One long answer question (LAQ) for 10 marks (1x10=10)
Three Short answer question (SAQ) for 5 marks (3×5=15) } = 25 Marks

Ten Multiple Choice Question (MCQ) each 1 mark (10×1=10) = 10 Marks

WEIGHTAGE OF QUESTION

SUBJECT	MARKS			
	LAQ	SAQ	MCQ	TOTAL MARKS
ORAL HISTOLOGY	10	15 (3SAQ)	10 (10 MCQ)	35
TOOTH MORPHOLOGY, ORAL ANATOMY AND ORAL PHYSIOLOGY	10	15 (3SAQ)	10 (10 MCQ)	35
	20	30	20	70

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LEVEL OF QUESTIONS

TYPE OF QUESTIONS	PERCENT
Easy	60
Average	30
Difficult	10

DISTRIBUTION OF QUESTION FOR SECTION - A

- 1 LAQ must be ONLY from Oral Histology in any one of the following Topics

  Development and growth of teeth.
  Enamel
  Dentin
  Pulp
  Periodontal ligament
  Oral mucous membrane
  Histology of salivary gland

- The LAQ must be dealt with the following headings in detail wherever possible
  1. Introduction
  2. Structure Types
  3. Histology with Diagram

- 3 SAQ and 10 MCQ from all the chapters excluding the one chapter from which LAQ is asked.

SECTION - A (ORAL HISTOLOGY ONLY) TOTAL – 35 MARKS

LAQ= Long Answer Question
SAQ= Short Answer Question
25 Marks

MCQ can be asked from all the remaining chapters. 10 x 1 = 10 Marks

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Example 1 :

If LAQ From Histology of Salivary gland				
SI NO	**TOPIC**	**LAQ (1×10)**	**SAQ (3×5)**	**MARKS**
1	Developmental of tooth			
2	Periodontal ligament		**1×5**	**5**
3	Enamel		**1×5**	**5**
4	**Histology of salivary gland**	**1×10**		**10**
5	Pulp			
6	Cementum			
7	Oral mucous membrane		**1×5**	**5**
8	Dentin			
9	Alveolar Bone			

Example 2 :

If LAQ From Oral mucous membrane				
SI NO	**TOPIC**	**LAQ (1×10)**	**SAQ (3×5)**	**MARKS**
1	Developmental of tooth		**1×5**	**5**
2	TMJ			
3	Eruption and Shedding		**1×5**	**5**
4	Histology of salivary gland			
5	Pulp		**1×5**	**5**
6	Cementum			
7	Oral mucous membrane	**1×10**		**10**
8	Maxillary sinus			
9	Histochemical techniques			

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DISRIBUTION OF QUESTIONS FOR SECTION – B

- 1 LAQ must be from Morphology of any ONE Permanent Teeth **except 3rd molar.**
- The LAQ must be dealt with the following headings in detail wherever possible
    1. Introduction
    2. Chronology
    3. Description of each surface with diagram.
- 3 SAQ and 10 MCQ from all the three subjects namely (Tooth Morphology, Oral Anatomy And Oral Physiology) excluding the one Chapter from which LAQ is asked.

SECTION B (TOOTH MORPHOLOGY, ORAL ANATOMY AND ORAL PHYSIOLOGY)

TOTAL - 35 MARKS

LAQ= Long Answer Question
SAQ= Short Answer Question

25 Marks

MCQ can be asked from all the remaining chapters. 10 x 1 = 10 Marks

Example 1 :

If LAQ	Only From Morphology of Permanent Teeth			
SI NO	**TOPIC**	**LAQ (1×10)**	**SAQ (3×5)**	**MARKS**
1	Permanent Maxillary 1st Molar	**1×10**		**10**
2	Muscles of Mastication			
3	Facial Nerves			
4	Diff B/W Primary and Permanent teeth		**1×5**	**5**
5	Infra temporal fossa			
6	Facial Arteries			
7	Deglutition		**1×5**	**5**
8	Saliva			
9	Hormones and vitamins in Oral tissues		**1×5**	**5**

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Example 2 :

If LAQ Only From Morphology of Permanent Teeth				
SI NO	**TOPIC**	**LAQ (1×10)**	**SAQ (3×5)**	**MARKS**
1	Nerve supply of teeth		**1×5**	**5**
2	Morphology of Mandibular Canine	**1×10**		**10**
3	Dental pain Pathway		**1×5**	**5**
4	Tooth morphology (Embrassures)		**1×5**	**5**
5	Facial muscles			
6	Vitamins			
7	Theories of mineralization			
8	Anatomy of salivary gland			
9	Taste pathway			

DEPARTMENT OF ENVIRONMENTAL STUDIES

QUESTION BANK

Scheme of Examination:

Unit – 1: Multidisciplinary nature of Environmental studies.

1. Scope and the importance of environmental studies – 10 marks
2. Need for public awareness – 10 marks

Unit- II: Natural resources.

1. Impacts of mining activities – 05 marks
2. Deforestation – 05 marks
3. Effects of modern agriculture – 05 marks
4. Energy Resources – 10 marks
5. Role of individual in conservation of natural resources – 10 marks

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Unit – III: Ecosystem.

1. Pond Ecosystem – 05 marks
2. Grass land ecosystem – 05 marks
3. Desert Ecosystem – 05 marks
4. Structure and Function of an Ecosystem – 10 marks
5. Food chain, Food web, and Ecological Pyramids – 10 marks

Unit – IV: Biodiversity & its conservation.

1. Types of Biodiversity – 05 marks
2. Value of Biodiversity – 05 marks
3. Endangered & Endemic species of India – 05 marks
4. Threats to biodiversity – 05 marks
5. Hot spots of biodiversity – 05 marks
6. Conservation of biodiversity – 10 marks

Unit – V: Environmental Pollution.

1. Soil Pollution – 05 marks
2. Noise pollution – 05 marks
3. Marine pollution – 05 marks
4. Bhopal Gas Tragedy – 05 marks
5. Air Pollution – 10 marks
6. Water Pollution – 10 marks
7. Solid waste management – 10 marks
8. Disaster management – 10 marks
9. Role of an individual in prevention of Pollution – 10 marks

Unit – VI: Social issues and the environment.

1. Wasteland reclamation – 05 marks
2. Environmental protection act – 05 marks
3. Air prevention, control of pollution act – 05 marks
4. Water prevention & control of pollution act – 05 marks
5. Wild life protection act – 05 marks
6. Forest conservation act – 05 marks
7. Rain water harvesting methods – 10 marks

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Unit – VII: Human population and the environment

1. Human rights – 05 marks
2. Value education – 05 marks
3. HIV/AIDS – 05 marks
4. Women and child welfare – 10 marks
5. Environmental Human health – 10 marks
6. Human population and family welfare programmes – 10 marks
7. Role of information technology in environment & Human health – 10 marks

Types of Questions with marks (Each Paper):

Type of Questions	No. of questions	Marks per questions	Total
Short Essay	05 out of 10	05	25
Long Essay	05 out of 10	10	50
		Maximum marks	75

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II YEAR

DEPARTMENT OF PATHOLOGY

Section A

1. **General Pathology**
    1. Cell injury & adaptation
    2. Inflammation and wound healing
    3. Haemodynamic disorders and Thromboembolism
    4. Diseases of immunity
    5. Neoplasia
    6. Infectious diseases(TB,Syphilis & Typhoid)
    7. Nutritional diseases (PEM, Vitamin deficiency) (A,B.C.D.K and E)
2. **Haematology and Systemic Pathology**
    1. Red blood cell disorders
    2. White blood cell disorders and lymph nodes
    3. Platelet & bleeding disorders
    4. Oral cavity, salivary glands tumours ,jaw cyst & jaw tumours
    5. Musculoskeletal system
    6. Cardiovascular system

Each paper shall contain the structure as follows:

I. **One Long answer question (LAQ) for 10 marks (should be structured)**
II. **Three Short answer questions (SAQ) for 5 marks (3 x 5 = 15)**
III. **Multiple Choice questions (1 x 10 = 10) (should test the recall generally)**

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Question Pattern

SECTION –A					
SL.No	**Topics**	**LAQ (1x10)**	**SAQ (3x5=15)**	**MCQ (10x1=10)**	**Total 35 Marks**
I.	**General Pathology**				
1	Cell injury & adaptation	-	1or	1	
2.	Inflammation and wound healing/hemodynamic disorders and thromboembolism/Neoplasia	1 or	-	1	
3.	Diseases of immunity	-	-	1	
4.	Infectious diseases(TB, Syphilis & Typhoid)	-	1or	1	
5.	Nutritional diseases (PEM, Vitamin deficiency) (A,B.C.D.K and E)	-	1or	1	
II.	**Haematology and Systemic Pathology**				
1.	Red blood cell disorders/white blood cell disorders and lymph nodes	1	-	1	
2.	Platelet & bleeding disorders	-	1or	1	
3.	Oral cavity, salivary glands tumours ,jaw cyst & jaw tumours	-	1or	1	
4.	Musculoskeletal system	-	1or	1	
5.	Cardiovascular system	-	1	1	
	TOTAL	**10**	**15**	**10**	**35MARKS**

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Blue Print Question Pattern

I: Essays To Be Asked From The Following Topics:

1. General Pathology -Inflammation and wound healing or Haemodynamic disorders and Thromboembolism or Neoplasia

2. Haematology and Systemic Pathology- Red blood cell disorders or White blood cell disorders .

II: 5 Marks Questions Can Be Asked From

1. General Pathology- Inflammation and wound healing or Haemodynamic disorders and Thromboembolism or Neoplasia orcell injury and adaptation,diseases of immunity or nutritional diseases or Infectious diseases (TB,Syphilis & Typhoid).

2. Haematology and Systemic Pathology:
   Red blood cell disorders or White blood cell Disorders or Platelet & bleeding disorders or salivary glands tumours & jaw tumours or Musculoskeletal system or Cardiovascular system.

III :Multiple Choice Questions Can Be Asked From All The Topics

IV : No Essay And 5 Marks From:

1. Diseases of immunity

V: No Essay From :

1. **General Pathology** : Cell injury & adaptation, Infectious diseases(TB, Syphilis & Typhoid) Nutritional diseases (PEM, Vitamin deficiency) (A,B.C.D.K and E)

2. **Haematology and Systemic Pathology**: lymph nodes, Musculoskeletal system, Oral cavity, salivary glands tumours, jaw cyst & jaw tumours, Cardiovascular system, Musculoskeletal system, Platelet & bleeding disorders.

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Pathology Sub Topics with cognitive level

Topics	Knowledge Level	Understanding Level
Classification	√	
Etiopathogenesis		√
Morphology		√
Lab Diagnosis	√	
Complications	√	

Instruction:

1. Questions may be selected from must know topics only as per the syllabus given.
2. Question may be selected equally from knowledge level & understanding level.

Must Know Areas

S.No	Topics	Must Know areas	Desirable to know area
1.	General Pathology**:**		
1.	Introduction to pathology		
2.	Terminologies		
3.	The cell in health	√	
4.	The normal cell structure		
5.	The cellular functions		
2.1	Etiology and pathogenesis of disease		
2.	Cell injury		
3.	Types-i).congenital		
	ii) Acquired	√	
4.	Main Acquired causes of disease (Hypoxic injury chemical injury,physical injury, immunological injury)		
3. 1.	Degenerations		
2.	Amyloidosis		
3.	Fatty change	√	

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4.	Cloudy swelling		
5.	Hyaline change mucoid degeneration	√	
4.1.	Cell death & Necrosis		
2.	Apoptosis		
3.	Def, causes, features and types of necrosis		
4.	Gangrene-Dry, wet, gas	√	
5.	Pathological Calcifications (Dystrophic and metastatic)		
5.1	Inflammation		
1	Definition, causes type, and features		
2	Acute inflammation		
a.	The vascular response		
b.	The cellular response		
c.	Chemical mediators	√	
d.	The inflammatory cells		
e	Fate		
	-Chronic inflammation		
	-Granulomations inflammation		
6.	Healing		
1.	Regeneration Repair		
a.	Mechanisms		
b.	Healing by primary intention		
c.	Healing by secondary intention	√	
d.	Fracture healing		
e.	Factors influencing healing process		
f.	Complications		
7.	Tuberculosis		
	Epidemiology	√	
	- Pathogenesis (Formation of tubercle)		
	- Pathological features of primary and secondary TB		
	Complications and Fate		
8.	Syphilis		
	Epidemiology		
	Types and stages of syphilis		
	Pathological features	√	
	Diagnostic criterias		

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	Oral lesions		
9.	Typhoid		
	Epidemiology		
	Pathogenesis	√	
	Pathological features		
	Diagnostic criterias		
10.	Thrombosis		
	Definition, Pathophysiology	√	
	Formation, complications & Fate of a thrombus		
11	Embolism		
	Definition		
	Types	√	
	Effects		
12.	Ischaemia and Infarction	√	
	Definition, etiology, types		
13.	Derangements of body fluids		
	- Oedema – pathogenesis	√	
	Different types		
14.	Disorders of circulation		
	Hyperaemia	√	
	Shock		
15.	Nutritional Disorders		
	- Common Vitamin Deficiencies	√	
16.	Immunological mechanisms in disease		
	Humoral & cellular immunity		√
	Hypersensitivity & autoimmunity		
17.	AIDS	√	
18.	Hypertension		
	Definition, Classification		
	Pathophysiology		√
	Effects in various organs		
19.	Diabetes Mellitus		
	Def, Classification, Pathogenesis, Pathology in different organs		
20	Adaptive disorders of growth		

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	- Atrophy & Hypertrophy, Hyperplasia, Metaplasia and Dysplasia	√	
21	General Aspects of Neoplasia		
a	Definition, terminology,classification		
b	Differences between benign and malignant neoplasms		
c	The neoplastic cell		
d	Metastasis		
e	Etiology and pathogenesis of neoplasia, Carcinogenesis	√	
f	Tumour biology		
g	Oncogenes and anti-oncogenes		
h	Diagnosis		
i	Precancerous lesions		
j	Common specific tumours, Sq papilloma & Ca, Basal cell Ca, Adenoma & Adenoca, Fibroma & Fibrosarcoma, Lipoma and liposarcoma Systemic Pathology		
22	Anaemias		
	- Iron deficiency anaemia, Megaloblastic anaemia	√	
23.	Leukaemias		
	Acute and chronic leukaemias, Diagnosis and clinical features	√	
24.	Diseases of Lymph nodes		
	- Hodgkin's disease, Non Hodgkins Lymphoma, Metastatic carcinoma		√
25.	Diseases of oral cavity		
	Lichen planus, Stomatitis, Leukoplakia, Sq cell Ca, Dental caries, Dentigerious cyst, Ameloblastoma	√	
26.	Diseases of salivary glands		
	Normal structure, Sialadenitis, Tumours		√
27.	Common diseases of Bones		
	- Osteomyelitis, Metabolic bone diseases, Bone Tumours, Osteosarcoma, Osteocalstoma, Giant cell Tumour, Ewing's sarcoma, Fibrous dysplasia, Aneurysmal bone cyst		√
28.	Diseases of Cardiovascular system		
	Cardiac failure		
	Congenital heart disease - ASD,VSD, PDA Fallot's Tetrology		√

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	Infective Endocarditis		
	Atherosclerosis		
	Ischaemic heart Disease		
29.	Haemorrhagic Disorders		
	Coagulation cascade		
	Coagulation disorders	√	
	Platelet function		
	Platelet disorders		

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Department of Microbiology

S.No.	Topics	Total 35 marks	Essay (LAQ) (1 x10 =10 Marks)	Short notes (SAQ) (3 x5=15 Marks)	MCQ (10 x1=10 Marks)
I	Virology	13	1	-	3
Ii	Mycology	6	-	1	1
Iii	Parasitology	12	-	2	2
Iv	Applied microbiology	4	-	-	4
	Total questions		1	3	10

OR

S.No.	Topics	Total 35 marks	Essay (LAQ) (1 x10 =10 Marks)	Short notes (SAQ) (3 x5=15 Marks)	MCQ (10 x1=10 Marks)
I	Virology	13	-	2	3
Ii	Mycology	6	-	-	5
Iii	Parasitology	12	1	-	2
Iv	Applied microbiology	4	-	1	-
	Total questions		1	3	10

OR

S.No.	Topics	Total 35 marks	Essay (1 x10 =10 Marks)	Short notes (3 x5=15 Marks)	MCQ (10 x1=10 Marks)
I	Virology	13	-	2	3
Ii	Mycology	6	-	1	1
Iii	Parasitology	12	1	-	2
Iv	Applied microbiology	4	-	-	4
	Total questions		1	3	10

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The paper shall consist of two sections as follows:

- **Section A:** for 35 marks (General bacteriology, Immunology & Systematic bacteriology)

(General bacteriology-6 marks, Immunology-12 marks & Systematic bacteriology- 17marks**)**

- **Section B:** for 35 marks (Virology, Parasitology, Mycology & Applied Microbiology)

(Virology-13 marks, Parasitology-12 marks, Mycology-6 marks & Applied Microbiology- 4 marks)

Each paper shall contain the structure as follows:

- One Long answer question LAQ (ESSAY) for 10 marks (Should be structured)
- Three Short answer question SAQ (SHORT NOTES) for 5 marks each (3 x 5=15)
- Ten Very Short answer question MCQ (MULTIPLE CHOICE QUESTIONS) for 1 marks each (10x1=10) (Should test the recall generally)

SECTION – A

(General bacteriology-6 marks, Immunology-12 marks & Systematic bacteriology- 17 marks)

If LAQ from Immunology, the matrix is as follows					
S. No	**TOPIC**	**LAQ (1x10)**	**SAQ (3x5)**	**MCQ (10x1)**	**TOTAL (35)**
1	General bacteriology		1x5	2x1	7
2	Immunology	1x10		1x1	11
3	Systemic bacteriology		2x5	7x1	17
	Grand Total (Marks)	**10**	**15**	**10**	**35**

If LAQ from Systemic bacteriology, the matrix is as follows					
S. No	**TOPIC**	**LAQ (1x10)**	**SAQ (3x5)**	**MCQ (10x1)**	**TOTAL (35)**
1	General bacteriology		1x5	2x1	7
2	Immunology		2x5	3x1	13
3	Systemic bacteriology	1x10		5x1	15
	Grand Total (Marks)	**10**	**15**	**10**	**35**

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SECTION – B

(Virology-13 marks, Parasitology-12 marks, Mycology-6 marks & Applied Microbiology- 4 marks)

If LAQ from Parasitology, the matrix is as follows					
S. No	**TOPIC**	**LAQ (1x10)**	**SAQ (3x5)**	**MCQ (10x1)**	**TOTAL (35)**
1	Virology		2x5	4x1	14
2	Parasitology	1x10		1x1	11
3	Mycology		1x5	2x1	7
4	Applied Microbiology			3x1	3
	Grand Total (Marks)	**10**	**15**	**10**	**35**

If LAQ from Virology, the matrix is as follows					
S. No	**TOPIC**	**LAQ (1x10)**	**SAQ (3x5)**	**MCQ (10x1)**	**TOTAL (35)**
1	Virology	1x10		2x1	12
2	Parasitology		2x5	3x1	13
3	Mycology		1x5	2x1	7
4	Applied Microbiology			3x1	3
	Grand Total (Marks)	**10**	**15**	**10**	**35**

If LAQ from Virology & SAQ from 2, 3 & 4 topics, the matrix is as follows					
S. No	**TOPIC**	**LAQ (1x10)**	**SAQ (3x5)**	**MCQ (10x1)**	**TOTAL (35)**
1	Virology	1x10		3x1	13
2	Parasitology		1x5	4x1	9
3	Mycology		1x5	2x1	7
4	Applied Microbiology		1x5	1x1	6
	Grand Total (Marks)	**10**	**15**	**10**	**35**

Note:

- See the **Annexure - I** attached to see the various LAQ, SAQ, & MCQ subtopics from the various topics as mentioned in section A & B.
- Please see the matrix above for marks distribution and type of questions to ask from eachtopic.

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Time Frame: 3 hours

Questions should be framed in such a way that the candidates should be able to answer -

- LAQ each within 30 minutes. So totally 2 LAQs within 60 minutes (1 Hour).
- SAQ each within 15 minutes. So totally 6 SAQs within 90 minutes (1&1/2 Hour).
- MCQ each within 1 minutes. So totally 20 MCQs within 20 minutes (20 min).
- Lastly 10 min for Revision and further use.

MICROBIOLOGY (BASED ON DCI SYLLABUS)	
MUST KNOW	**GOOD TO KNOW**
GENERAL MICROBIOIOGY:	
Morphology of bacteria.	History & Introduction
Sterlisation and Disinfection.	Physiology of bacteria.
Culture media and Culture techniques.	Selection, collection, transport, processing of clinical Specimen and identification of bacteria.
Bacterial Genetics and Drug Resistance in bacteria.	
IMMUNOLOGY:	
Infection	Structure and functions of Immune system
Immunity	The Complement System
Antigen	Immunodeficiency disorders
Imunoglobulins – Antibodies	Autoimmune disorders
Immune response	Immunology of Transplantation & Malignancy
Antigen - Antibody reactions	Immunohaemotology
Hypersensitivity reactions	
SYSTEMATIC BACTERIOLOGY:	
Staphylococcus	Pneumococcus

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Streptococcus	Gonococcus
Mycobacteria Tuberculosis and Leprosy	Meningococcus
Non-sporing Anaerobes	Corynebacterium diphtheriae
Spirochaetes	Clostridium
Actinomycetes.	
VIROLOGY:	
General properties and cultivation	Host - virus interaction, Interferon.
Laboratory diagnosis, Chemotherapy and immune prophylaxis	Bacteriophage - structure and significance
Herpes Virus	
Hepatitis B Virus	
Human Immunodeficiency Virus (HIV)	
Mumps Virus	
Measles and Rubella Virus	
MYCOLOGY	
	PARASITOLOGY
APPLIED MICROBIOLOGY	
Nosocomial infection (HAI)	
Immunoprophylaxis	
Universal precautions	
Biomedical waste management	

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Department of Pharmacology

SECTION –A					
SL.No	**Topics**	**LAQ (1x10)**	**SAQ (3x5=15)**	**MCQ (10x1=10)**	**Total 35 Marks**
1.	General Pharmacology	-	1	2	**7**
2.	Central Nervous System	1	-	3	13
3.	Autonomic Nervous system	-	1	2	**7**
4.	Cardio vascular system & Diuretics	-	-	2	**2**
5.	Blood	-	1	1	6

`

SECTION –B					
SL.No	**Topics**	**LAQ (1x10)**	**SAQ (3x5=15)**	**MCQ (10x1=10)**	**Total 35 Marks**
6.	Chemotherapy	1	1	4	**19**
7.	Gastro Intestinal Tract & Hormones	-	2	3	**13**
8.	Respiratory system & Autacoids	-	-	2	**2**
9.	Miscellaneous – Vitamins chelating agents	-	-	1	**1**
Total					**70 Marks**

Blue Print Question Pattern

I: ESSAYS TO BE ASKED FROM THE FOLLOWING TOPICS:

SECTION -A

1. Central Nervous System or Cardio vascular system & Diuretics

SECTION -B

2. Chemotherapy or Gastro Intestinal Tract & Hormones.

II: 5 MARKS QUESTIONS CAN BE ASKED FROM

SECTION- A

1. General Pharmacology
2. Autonomic Nervous System
3. Blood

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SECTION- B

4. Chemotherapy
5. Gastro Intestinal Tract & Hormones

III : MULTIPLE CHOICE QUESTIONS CAN BE ASKED FROM ALL THETOPICS

IV : NO ESSAY AND 5 MARKS FROM:

2. Respiratory system & Autacoids
3. Miscellaneous

Pharmacology Sub Topics with cognitive level

Topics	Knowledge Level	Understanding Level
Classification	√	_
Pharmacological action	_	√
Adverse Drug reaction	√	_
Therapeutic Uses	_	√

Instruction:

1. Questions may be selected from must know topics only as per the syllabus given.
2. Question may be selected equally from knowledge level & understanding level.

`

DENTAL MATERIALS

The paper shall consist of two sections as follows:

Section A: Prosthodontics related materials for 35 marks

Section B: Restorative Dentistry related materials for 35 marks

Each section shall contain the structure as follows:

One Long answer question (LAQ) for 10 marks *(Should be structured)*

Three Short answer questions (SAQ) for 5 marks (3 x 5 = 15)

Ten Multiple Choice Questions (MCQ) for 1 mark (1 x 10 = 10) *(Should test the recall generally)*

The questions can be distributed as follows: ***please refer to Question bank and syllabus***

70 % should be from the Must know areas

20 % should be from Desirable to know areas

10 % should be from Nice to know areas

Weightage Of Questions

SUBJECT	MARKS ALLOTMENT			
SECTION A (PROSTHODONTICS)	LAQ	SAQ	MCQ	TOTAL MARKS
	10	15	10	35
SECTION B (CONSERVATIVE DENTISTRY)	10	15	10	35
GRAND TOTAL				70 MARKS

Level Of Questions

TYPE OF QUESTIONS	PERCENT
Easy	60
Average	30
Difficult	10

`

Section A: Prosthodontics related materials

If LAQ is from Impression materials / Gypsum products /Dental Investments

TOPICS		LAQ	SAQ	MCQ	35 MARKS
1	Introduction including ADA, Basic Properties [physical,mechanical and biological properties of dental materials/ Dental waxes		1	2	7
2	Impression material [Elastic and non elastic materials] and Gypsum products and Dental investments	1		3	13
3	Metals and alloys used in dentistry, Basic properties including solidification shrinkage, finishing and polishing materials/Wrought alloys		1	2	7
4	Dental Ceramics		1	1	6
5	Denture Base Resins			2	2

If LAQ is from Dental Ceramics

TOPICS		LAQ	SAQ	MCQ	35 MARKS
1	Introduction including ADA, Basic Properties [physical,mechanical and biological properties of dental materials/ Dental waxes		1	3	8
2	Impression materials [Elastic and non elastic materials] Gypsum products and Dental investments		1	4	9
3	Metals and alloys used in dentistry, Basic properties including solidification shrinkage, finishing and polishing materials/ wrought alloys			2	2
4	Dental Ceramics	1			10
5	Denture Base Resins		1	1	6

`

If LAQ is from Denture Base Resin

TOPICS		LAQ	SAQ	MCQ	35 MARKS
1	Introduction including ADA, Basic Properties [physical,mechanical and biological properties of dental materials/ Dental waxes		1	3	8
2	Impression materials [Elastic and non elastic materials] Gypsum products and Dental investments		1	2	7
3	Metals and alloys used in dentistry, Basic properties including solidification shrinkage, finishing and polishing materials/ wrought alloys			3	3
4	Dental Ceramics		1	1	6
5	Denture Base Resins	1		1	11

SECTION B: CONSERVATIVE DENTISTRY

(If the LAQ is from Silver amalgam, the pattern is as follows)

S NO	TOPIC	LAQ	SAQ	MCQ	35 MARKS
1	Restorative dental materials – Ideal requirements and classification			2	2
1	Pulp protection – Ideal requirements and classification				
2	Silver amalgam	1			10
3	Direct Gold			3	3
4	Restorative resins		1		5
5	Glass Ionomer		1		5
6	Materials used for pulp protection Varnish and liners, Base materials, Pulp Capping materials			2	2
7	Caries prevention materials			3	3
8	Endodontic materials				
9	Orthodontic wires/ solder and welding		1		5

`

(If the LAQ is from Restorative Resins, the pattern is as follows)

S NO	TOPIC	LAQ	SAQ	MCQ	35 MARKS
1	Restorative dental materials – Ideal requirements and classification			2	2
1	Pulp protection – Ideal requirements and classification				
2	Silver amalgam		1		5
3	Direct Gold			2	2
4	Restorative resins	1		1	11
5	Glass Ionomer			3	3
6	Materials used for pulp protection Varnish and liners, Base materials, Pulp Capping materials		1	1	6
7	Caries prevention materials			1	1
8	Endodontic materials				
9	Orthodontic wires/ solder and welding		1		5

(If the LAQ is from Glass ionomer cement, the pattern is as follows)

S NO	TOPIC	LAQ	SAQ	MCQ	35 MARKS
1	Restorative dental materials – Ideal requirements and classification			2	2
1	Pulp protection – Ideal requirements and classification				
2	Silver amalgam		1		5
3	Direct Gold			2	2
4	Restorative resins		1	2	7
5	Glass Ionomer	1			10
6	Materials used for pulp protection Varnish and liners, Base materials, Pulp Capping materials			2	2
7	Caries prevention materials		1	1	6
8	Endodontic materials				
9	Orthodontic wires/ solder and welding			1	1

`

DISTRIBUTION OF QUESTIONS

LAQ must be from conservative dentistry from any of the following topics :

a) Dental Amalgam
b) Dental Cements
c) Dental composites
d) Bonding in dentistry
e) Direct filling gold
f) Different types of heat treatment
g) Cutting instrument
h) Pit and fissure sealant
i) Alloys

SAQ must be from the following topics :

A) Tarnish and corrosion
B) Mercury hygiene
C) Dental Burs
D) Smear Layer
E) Hybridization
F) Colors and its application

TIME FRAME:

Questions should be framed in such a way that candidates will answer MCQs within 20 minutes. LAQ within 60 minutes. And SAQ within 100 minutes

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Pre Clinical Prosthodontics

Total Marks 100

Practical (80 marks)					Internal (20 marks)	
Bite rims	**articulation**	**Teeth setting**	**Finishing & polishing**	**Viva Voce**	**Internal assessment**	**Record**
5 marks	10 marks	40 marks	5 marks	20	10 marks	10 marks

PRACTICAL DURATION 3 HOURS.

PRE CLINICAL CONSERVATIVE DENTISTRY

TOTAL MARKS 100

PRACTICAL (80 MARKS)					INTERNAL (20 MARKS)	
CAVITY PREPARATION	**BASE**	**MATRIX AND RETAINER**	**AMALGAM RESTORATION**	**VIVA VOCE**	**INTERNAL ASSESSMENT**	**RECORD**
30 marks	**7.5 marks**	**7.5 marks**	**15 marks**	**20 Marks**	**10 marks**	**10 marks**

PRACTICAL DURATION 3 HOURS.

`

III YEAR

GENERAL MEDICINE

The paper shall consist of two sections as follows:

Section A: ORAL PATHOLOGY - 35 marks

Section B: ORAL PATHOLOGY - 35 marks

Pattern

LAQ= Long Answer Question

SAQ= Short Answer Question

MCQ= Multiple Choice Question

Section A

Long Answer Question	Short Answer Question	Multiple choice question
Cardiovascular System	Hematology Infectious disease Clinical pharmacology	Any system 10 questions
1 question from either system 1*10 = 10 marks	1 Question from each system 3*5= 15 marks	10*1=10 marks

Section B

Long Answer Question	Short Answer Question	Multiple choice question
Central nervous system Respiratory system	Nephrology, Nutrition, Endocrinology	Any system 10 questions
1 question from either system 1*10 = 10 marks	1 Question from each system 3*5= 15 marks	10*1=10 marks

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GENERAL SURGERY

The paper shall consist of two sections as follows:

Section A: ORAL PATHOLOGY - 35 marks

Section B: ORAL PATHOLOGY - 35 marks

Pattern

LAQ= Long Answer Question

SAQ= Short Answer Question

MCQ= Multiple Choice Question

Section A

Long Answer Question	Short Answer Question	Multiple choice question

Section B

Long Answer Question	Short Answer Question	Multiple choice question

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ORAL PATHOLOGY & ORAL MICROBIOLOGY

The paper shall consist of two sections as follows:

Section A: ORAL PATHOLOGY - 35 marks

Section B: ORAL PATHOLOGY - 35 marks

Pattern

LAQ= Long Answer Question

SAQ= Short Answer Question

MCQ= Multiple Choice Question

Each paper shall contain the structure as follows:

One long answer question (LAQ) for 10 marks (1x10=10)

Three Short answer question (SAQ) for 5 marks (3×5=15)

= 25 Marks

Ten Multiple Choice Question (MCQ) each 1 mark (10×1=10) = 10 Marks

WEIGHTAGE OF QUESTION

SUBJECT	MARKS			
	LAQ	SAQ	MCQ	TOTAL MARKS
ORAL PATHOLOGY	10	15 (3SAQ)	10 (10 MCQ)	35
ORAL PATHOLOGY	10	15 (3SAQ)	10 (10 MCQ)	35
	20	30	20	70

LEVEL OF QUESTIONS

TYPE OF QUESTIONS	PERCENT
Easy	60
Average	30
Difficult	10

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DISTRIBUTION OF QUESTION FOR SECTION - A

- LAQ must be ONLY from Oral Pathology in any one of the following Topics (includes section A or B)

3. Developmental disturbance – only from structure of tooth
4. Odontogenic cysts
5. Epithelial tumors
6. Soft tissue tumors
7. Tumors of salivary gland
8. Bacterial, viral and fungal infection
9. Dental caries
10. Diseases of pulp and periapical infections
11. Periodontal diseases
12. Bone and joint diseases
13. Allergy and immunological diseases
14. Haematological diseases

- The LAQ must be dealt with the following headings in detail wherever possible
  1. Definition
  2. Classification and types
  3. Etiopathogenesis
  4. Clinical features
  5. Radiographic features
  6. Laboratory investigation
  7. Histological features (types and classification)
  8. Treatment

- 3 SAQ and 10 MCQ from all the chapters excluding the one chapter from which LAQ is asked.

`

SECTION - A (ORAL PATHOLOGY) **TOTAL – 35 MARKS**

LAQ= Long Answer Question

SAQ= Short Answer Question

25 Marks

MCQ can be asked from all the remaining chapters. 10 x 1 = 10 Marks

EXAMPLE 1:

S NO	TOPIC	LAQ (1X15)	SAQ (3X5)	35
1	Odontogenic cyst and tumors	1x10		10
2	Epithelial tumors		1x5	5
3	Soft tissue tumors			
4	Bacterial, viral and fungal infections		1x5	5
5	Dental caries			
6	Bone and joint diseases			
7	Diseases of pulp and periapical infections		1x5	5
8	Periodontal diseases			
9	Haematological diseases			

Example 2:

S no	TOPIC	LAQ (1X15)	SAQ (3X5)	35
1	Developmental disturbance – only from structure of tooth.			
2	Epithelial tumors	1x10		10
3	Soft tissue tumors		1x5	5
4	Tumors of salivary gland		1x5	5
5	Forensic odontology			
6	Disease of pulp and periapical infection		1x5	5
7	Healing of oral wounds			
8	Space infections			
9	Physical and chemical injuries			

DENTAL ENGINEERING

1. DENTAL CHAIR - PARTS AND FUNCTIONS

10 Mark question

1. Mention the parts of a dental chair with a diagram. (10 Marks).

5 Mark question

2. Explain the history of dental chairs (5 Marks)
3. What are the types of dental chairs (5 Marks)
4. What are the function and operation of each parts of the dental chair.

2. DENTAL SUCTION UNIT

Question bank

ESSAY

1) What is suction unit? Write in detail about importance of having a clear work field. Explain about parts, types and mechanism of action of Dental Suction unit.

Short notes

1) Explain the types of Suction system. (5 marks)
2) Write in detail about the parts of Dental Suction unit? (5 marks)
3) Explain Motorized and Pneumatic Suction unit. (5 marks)
4) Write in detail about preventive maintainance of a suction system. (5 marks)
5) Explain the rationale behind the use of suction apparatus. (5 marks)

3. AIROTOR AND MICROTOR

ESSAY

1) What is handpiece. write in detail about its classification,applications and maintanence of hand piece?

Short notes

1) Evolution and Types of hand pieces (5 marks)
2) Classification of hand piece based on its speed (5 marks)
3) Mechanics involved in handpiece operation (5 marks)
4) Difference between airotor and micromotor and Short note on micromotor (5 marks)
5) Types of bearings used in handpiece (5 marks)
6) Steps involved in the maintanence of handpiece (5 marks)

4. SCALERS

1. Mechanism of action of Power scalers (5 marks)
2. Types, Benefits and Clinical outcomes of power driven instruments (5 marks)
3. Comparison of Advantages and Disadvantages between Manual instruments and Mechanized instruments (5 marks)
4. Mention the special considerations while using Scalers (5 marks)
5. Indications, Precautions and Contraindications for use of mechanized instruments (5 marks)
6. Mention the potential hazards associated with Ultrasonic scaling (5 marks)
7. Compare sonic and ultrasonic scalers. Write in detail about the mechanism of action, advantages, disadvantages, Indications, Precautions and Contraindications for use of mechanized instruments In dentistry. (10 marks)

5. DENTAL COMPRESSOR

ESSAY: (1×10=10)

1. WHAT IS DENTAL COMPRESSOR. WRITE A BRIEF NOTE ON PRICIPLES, TYPES AND BENEFITS OF DENTAL COMPRESSOR.

SHORT NOTES: (5 × 5= 25)

1. FACTORS TO CONSIDER WHILE PICKING A DENTAL COMPRESSOR.
2. PARTS AND FUNCTION OF DENTAL COMPRESSOR.
3. WRITYE A NOTE ON INSTALLATION AND DENTAL REGULATION OF DENTAL COMPRESSOR.
4. WRITE A NOTE ON "SMART TECHNOLOGY" AND DENTAL COMPRESSOR.
5. DENTAL COMPRESSOR MAINATINACE AND INSPECTION PROCEDURE.
6. **DENTAL STOOLS**

1. Dental stools- 5 marks

7. **ERGONOMICS**

1. Ergonomics in dentistry – 10marks

2. Application of ergonomics in dentistry – 5marks

3. Musculoskeletal disorders in dentistry -10marks

8. **STERILISATION EQUIPMENTS**

1] sterilisation and different methods – 5 marks

2] autoclave and its mechanism – 10 marks

3] hot air oven and its mechanism – 10 marks

4] flash sterilisation – 5 marks

5] chemical sterilisation – 5 marks

9. VARIOUS X-RAY MACHINES:

10 Marks:

1. Write in detail about Parts of IOPA X-Ray machine

5 Marks:

1. RVG
2. Types of sensors
3. Advantages and disadvantages of CBCT
4. AERB Protocols
5. ALARA Principles
6. Radiation protection methods.

10. RECENT ADVANCEMENTS

Essay (10 Marks) / Short Notes (5 Marks)

Type of Question with Marks

Type Of Questions	No Of Questions	Marks per Question	Total
Long Essay	2	10	20
Short Note	10	5	50
Total			70

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IV YEAR

ORAL MEDICINE AND RADIOLOGY

Blue print of question paper

The paper shall consist of two sections as follows:

Section A: for 35 marks

Section B: for 35 marks

Each paper shall contain the structure as follows:

One Long answer question (LAQ) for 10 marks *(Should be structured)*

Three Short answer questions (SAQ) for 5 marks (3 x 5 = 15)

Five Very short answer questions (VSAQ) for 2 marks (2 x 5 = 10) *(Should test the recall generally)*

The questions can be distributed as follows: *please refer to Question bank and syllabus*

70 % should be from the Must know areas

If LAQ from red and white lesion, the matrix is as follows					
Sl. No.	**Topic**	**LAQ (1x10)**	**SAQ (3x5)**	**VSAQ (5x2)**	**35**
1	Ulcerovesiculobullous lesions		1x5		5
2	Red and white lesions	1x10			10
3	Pigmented lesions			1x2	2
4	Cysts and tumors			1x2	2
5	Oral cancer			1x2	2
6	Salivary gland diseases		1x5		5
7	TMJ and Orofacial pain			1x2	2
8	Systemic disease and its oral manifestions		1x5		5
9	Pharmacology			1x2	2

20 % should be from Desirable to know areas

10 % should be from Nice to know areas

`

If LAQ from radiation biology, the matrix is as follows					
Sl. No.	Topic	LAQ (1x10)	SAQ (3x5)	VSAQ (5x2)	35
1	Radiation physics		1x5		5
2	Radiation biology	1x10			10
3	Health physics		1x5		5
4	Projection geometry			1x2	2
5	Intraoral and extraoral radiographic technique			1x2	2
6	Orthopantomograph and digital imaging			1x2	2
7	Specialized radiographic techniques			1x2	2
8	Radiographic appearance of systemic diseases			1x2	2
9	X ray films,processing and quality assurance		1x5		5

SECTION 1

If LAQ from Ulcerovesiculobullous lesions, the matrix is as follows					
Sl. No.	Topic	LAQ (1x10)	SAQ (3x5)	VSAQ (5x2)	35
1	Ulcerovesiculobullous lesions	1x10			10
2	Red and white lesions		1x5		5
3	Pigmented lesions			1x2	2
4	Cysts and tumors			1x2	2
5	Oral cancer		1x5		5
6	Salivary gland diseases			1x2	2
7	TMJ and Orofacial pain		1x5		5
8	Systemic disease and its oral manifestions			1x2	2
9	Pharmacology			1x2	2

`

Pediatric & Preventive Dentistry

Blue Print of Question Paper

The paper shall consist of two sections as follows:

Section A: Pedodontics (50 Marks)

Section B: Preventive Dentistry (50 marks)

Both the sections will carry

Essay : 1 (15 Marks)

Short Notes : 3(5marks each)

Short Answers :10 (2 marks each)

Time Frame: Total Duration: 3 hrs. Below is the split up of time .

If LAQ from radiation physics, the matrix is as follows					
Sl. No.	Topic	LAQ (1x10)	SAQ (3x5)	VSAQ (5x2)	35
1	Radiation physics	1x10			10
2	Radiation biology			1x2	2
3	Health physics		1x5		5
4	Projection geometry			1x2	2
5	Intraoral and extraoral radiographic technique		1x5		5
6	Orthopantomograph and digital imaging			1x2	2
7	Specialized radiographic techniques			1x2	2
8	Radiographic appearance of systemic diseases			1x2	2
9	X ray film processing and quality assurance		1x5		5

S.No	Type of question	Time required to answer 1 question in minutes	No. of questions in both sections	Total Time Frame in HOUR
1	Essay	30	2	1
2	Short Notes	10	6	1
3	Short Answers	3	20	1

Level of questions:

Type of Questions	Percent
Easy	60
Average	30
Difficult	10

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Distribution of questions:

Section A : Pediatric dentistry

S.No	TOPIC	Essay	Short Notes	Short Answers
1	Introduction to Pedodontics			1x2
2	Oral examination & diagnosis			1x2
3	Teeth identification & numbering systems			1x2
4	Developmental milestones in children			1x2
5	Theories of growth		1x5	
6	Prenatal & post natal development of head & face		1x5	
7	Principles, assessment & factors influencing growth		1x5	
8	Teeth eruption & shedding			1x2
9	Development of occlusion	1x15		
10	Morphology of primary dentition			1x2
11	Child psychology	1x15		
12	Fear & anxiety		1x5	
13	Non pharmacologic behavior management	1x15		
14	Conscious sedation		1x5	
15	Behaviour management of handicapped child		1x5	
16	Dental caries		1x5	
17	Early childhood caries	1x15		
18	Rampant caries	1x15		
19	Pediatric operative dentistry		1x5	
20	Restorative materials in pediatric dentistry			1x2
21	Pulp and periapical diseases		1x5	
22	Pulp therapy for vital teeth	1x15		
23	Pulp therapy for non vital teeth	1x15		
24	Gingiva & periodontium in children			1x2
25	Local anesthesia			1x2
26	Traumatic injuries to anterior teeth	1x15		
27	Pediatric minor oral surgery			1x2
28	Medical emergencies in dental practice			1x2
29	Pharmacological considerations in pediatric dentistry		1x5	
30	Cleft lip &palate	1 x 15		

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Section B : Preventive Dentistry

S.No	TOPIC	Essay	Short Notes	Short Answers
1	First dental visit			1x2
2	Dental Home			1x2
3	Radiographic techniques			1x2
4	Digital radiographic diagnosis			1x2
5	Developmental milestones in children			1x2
6	Diet & nutrition			1x2
7	Diet counseling		1x5	
8	Pit & fissure sealants		1x5	
9	Plaque control in children			1x2
10	Plaque control for the disabled child			1x2
11	Fluorides		1x5	
12	Oral habits	1x15		
13	Preventive & interceptive orthodontics	1x15		
14	Myofunctional therapy		1x5	
15	Model analysis		1x5	
16	Pediatric space management	1x15		
17	Serial extraction		1x5	
18	Caries risk assessment		1x5	
19	Diagnosis aids in dental caries			1x2
20	Minimal intervention			1x2
21	Atraumatic restorative treatment		1x5	
22	Stainless steel crowns in pediatric dentistry		1x5	
23	Anterior crowns in pediatric dentistry		1x5	
24	Dentistry for special child		1x5	
25	Child abuse & neglect			1x2

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ORTHODONTICS

Blueprint Of Question Paper

The paper shall consists of two sections as follows:

section a: for 50 marks [orthodontic diagnosis]

section b: for 50 marks [treatment planning]

laq=long answer question

saq=short answer question

vsaq=very short answer question

Each paper shall contain the structure as follows:

one long answer question [laq] for 15 marks [should be structured]

three short answer questions [saq] for 5 marks [3x5=15]

five very short answer questions [vsaq] for 2 marks [2x10=20][shouldtest the recall generally]

Weightage of questions

Subject	Marks			
	Laq	Saq	Vsaq	Total marks
Orthodontic diagnosis	15	15[3saq]	20[1vsaq]	50
Treatment planning	15	15[3saq]	20[10 vsaq]	50
	30	30	40	100

Level of questions

Type of questions	Percent
Easy	60
Average	30
Difficult	10

Section – a [orthodontic diagnosis]

S.no	Chapter	Laq [1x5]	Saq [3x5]	Vsaq [10x2]	Total marks 50
1	Introduction of orthodontics &dentition&development		1x5		5
2	Growth&development /anchorage	1x15			15
3	Diagnostic aids			1x2	2

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4	Cephalometrics and maturity indicators			1x2	2
5	Occlusion & malocclusion			1x2	2
6	Methods of gaining space		1x5		5
7	Anchorage in orthodontics			1x2	2
8	Study model analysis		1x5		5

Section –b [treatment planning]

S.no	Chapter	Laq [1x15]	Saq [3x5]	Vsaq [5x2]	Total marks 50
1	Treatment planning			1x2	2
2	Biology of tooth movement		1x5		5
3	Mechanics of tooth movement		1x5		5
4	Retention and relapse/biology of tooth Biomechanics mechanics of tooth movement Management of malocclusion	1x15			15
5	Surgical orthodontics			1x2	2
6	Orthodontic appliances			1x2	2
7	Cleft lip and palate and adult orthodontics			1x2	2
8	Preventive and intercepive orthodontics and space gaining			1x2	2
9	Management of malocclusion		1x5		5
10	Genetics			1x2	

TIME FRAME

Questions should be framed in such a way that the candidates will be able to answer LAQ each within 30 minutes. So totally 2 LQAs within 60 mins [1 hr.]

1SAQ answer in 10 minutes. So totally 6 SAQ answered in 60 minutes [1hr]

Candidates will be able to answer 3 minutes for every VSAQ. So total 20 VSAQ to be answered in 60 minutes [1 hour]

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DISTRIUTION OF QUESTIONS

2 LAQ must be from orthodontics in any one of the following topics

a. Growth and development

b. Myofunctional and orthopedic appliances

c. Retention and Relapse

d. Anchorage in Orthodontics

e. Orthodontic appliances

f. History of orthodontics

The LAQ must be dealt with the following headings in detail whenever possible

1. Definitions
2. Classification
3. Diagnosis
4. Treatment planning
5. Appliance Therapy

SAQ must be from the following topics

1. Basics of occlusion
2. Interceptive orthodontics
3. Study models
4. Biology of tooth movement
5. Mechanics of tooth movement
6. Surgical orthodontics
7. Management of malocclusion
8. Growth and development
9. Removable appliances
10. Genetics

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PERIODONTOLOGY

Blue print of question paper

The paper shall consist of two sections as follows:

SECTION A: FOR 50 MARKS [Normal Periodontal Tissue, Classification and Epidemiology of Periodontal Diseases, Etiology of Periodontal Diseases, Oral-Systemic Relation, Periodontal Pathology, and Oral Malodour]

SECTION B: FOR 50 MARKS [Diagnosis, Prognosis & Treatment Plan, Treatment of Periodontal Emergencies, Non Surgical/Surgical Periodontal Therapy, Periodontal-Restorative Relationships, Oral-Implantology and Periodontal Maintenance]

LAQ = Long Answer Question

SAQ = Short Answer Question

VSAQ = Very Short Answer Question

Each paper shall contain the structure as follows:

One Long answer question (LAQ) for 15 marks *(Should be structured)*

Three Short answer questions (SAQ) for 5 marks (3 x 5 = 15)

Five Very short answer questions (VSAQ) for 2 marks (2 x 10 = 20)

WEIGHTAGE OF QUESTIONS

SUBJECT	**MARKS**			
	LAQ	**SAQ**	**VSAQ**	**TOTAL MARKS**
Section A	15	15 (3 SAQ)	20 (10 VSAQ)	50
Section B	15	15 (3SAQ)	20 (10 VSAQ)	50
	30	30	40	100

LEVEL OF QUESTIONS

TYPE OF QUESTIONS	**PERCENT**
Easy	60
Average	30
Difficult	10

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SECTION A

MODEL QUESTION PAPER 1

If LAQ IS FROM NORMAL PERIODONTAL TISSUES, THEN MATRIX IS AS FOLLOWS

SL.NO	TOPIC	LAQ (1x15 marks)	SAQ (3x5 marks)	VSAQ (10x2 marks)	TOTAL=50MARKS
1	Normal Periodontal Tissues	1X15			15
2	Classification & Epidemiology Of Periodontal Diseases			1X2	2
3	microbiology of periodontal diseases			1X2	2
4	Immunity & Inflammation		1X5		5
5	smoking and periodontal disease			1X2	2
6	Host Modulation			1X2	2
7	periodontal medicine		1X5		5
8	oral malodor			1X2	2
9	defense mechanism of gingiva			1X2	2
10	gingival enlargement			1X2	2
11	periodontal pocket		1X5		5
12	bone loss & patterns of bone-loss			1X2	2
13	chronic/aggressive periodontitis/anug			1X2	2
14	periodontal response to external forces			1X2	2

MODEL QUESTION PAPER 2

If LAQ IS FROM GINGIVAL ENLARGEMENT, THEN MATRIX IS AS FOLLOWS

SL.NO	TOPIC	LAQ (1x15)	SAQ (3x5)	VSAQ (10x2)	TOTAL=50MARKS
1	normal periodontal tissues		1X5		5
2	classification & epidemiology of periodontal diseases			1X2	2
3	the role of dental calculus and other predisposing factors			1X2	2
4	host-microbial interaction			1X2	2

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5	smoking and periodontal disease		1X5		5
6	influence of systemic disorders and stress on the periodontium			1X2	2
7	periodontal medicine			1X2	2
8	oral malodor			1X2	2
9	gingivlal inflammation		1X5		5
10	gingival enlargement	1X15			15
11	periodontal pocket			1X2	2
12	bone loss & patterns of bone-loss			1X2	2
13	desquamative gingivitis/chronic/aggressive periodontitis/anug			1X2	2
14	aids & periodontium			1X2	2

SECTION-B

MODEL QUESTION PAPER-1

If LAQ IS FROM FURCATION:INVOLVEMENT & TREATMENT, THEN MATRIX IS AS FOLLOWS

SL.NO	**TOPIC**	**LAQ (1x15 marks)**	**SAQ (3x5 marks)**	**VSAQ (10x2 marks)**	**TOTAL= 50MARKS**
1	clinical diagnosis			1X2	2
2	advanced diagnostic techniques			1X2	2
3	determinaation of prognosis		1X5		5
4	treatment of periodontal emergencies		1X5		5
5	plaque ocntrol			1X2	2
6	gingival surgical techniques			1X2	2
7	the periodontal flap			1X2	2
8	resective osseous surgery			1X2	2
9	reconstructive osseous surgery			1X2	2
10	furcation:involement & treatment	1X15			15
11	periodonal plastic& esthetic surgery		1X5		5
12	restorative interrelationships			1X2	2
13	oral implantology			1X2	2
14	periodontal maintenance			1X2	2

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MODEL QUESTION PAPER-2

If LAQ IS FROM PERIODONTAL MAINTENANCE, THEN MATRIX IS AS FOLLOWS

SL.NO	TOPIC	LAQ (1x15 marks)	SAQ (3x5 marks)	VSAQ (10x2 marks)	TOTAL=50 MARKS
1	clinical diagnosis			1X2	2
2	radiographic aids in the diagnosis of periodontal disease			1X2	2
3	advanced diagnostic aids		1X5		5
4	the treatment plan			1X2	2
5	dentinal hypersensitivity			1X2	2
6	sonic and ultrasonic instrumentatin			1X2	2
7	splinting		1X5		5
8	flap technique for pocket therapy			1X2	2
9	reconstructive osseous surgery			1X2	2
10	furcation:involement & treatment			1X2	2
11	periodonal plastic& esthetic surgery			1X2	2
12	biologic aspects of oral implants			1X2	2
13	implant related complications & failures		1X5		2
14	periodontal maintenance	1X15			15

TIME FRAME

Questions should be framed in such a way that the candidates will be able to answer LAQ each within 30 Minutes. So totally 2 LAQs within 60 mins(1 Hr).

1 SAQ answer in 10 minutes .So totally 6 SAQ answered in 60 minutes (1 Hr).

Candidates will be able to answer in 1 ½ mins for every VSAQ.So total 20 VSAQ to beanswered in 40 minutes

DISTRIBUTION OF QUESTIONS

One LAQ must be from **SECTION A** in any one of the following topics

1. The Gingiva
2. Periodontal ligament
3. Cementum
4. Dental plaque

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5. Pathogenesis of periodontal disease and host response
6. Effect of systemic factors over periodontium
7. Effect of periodontal diseases over systemic health
8. Smoking and periodontium
9. Defense mechanism of gingival inflammation
10. Gingival enlargement
11. Acute gingival conditions
12. Periodontal pocket
13. Bone loss and patterns of bone loss
14. Chronic periodontitis
15. Aggressive periodontitis
16. AIDS & Periodontium
17. Periodontal response to external forces

One LAQ must be from **SECTION B** in any one of the following topics

1. Prognosis
2. Non-surgical therapy
3. Surgical therapy
4. Periodontal maintenance.

The LAQ must be dealt with the following headings in detail whenever possible.

1) Definition.
2) Classification/Types.
3) Etiopathogenesis.
4) Clinical Features.
5) Diagrams/Flow charts
6) Differential Diagnosis
7) Investigations – clinical,Laboratory/Radiographic
8) Treatment plan

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FOR SAQ'S IN SECTION A,TOPICS CONSIDERED ARE

1. The gingiva
2. Periodontal ligament
3. Cementum
4. Alveolar bone
5. Classification of periodontal diseases
6. Epidemiology of periodontal diseases
7. Dental plaque
8. Dental calculus
9. Immunity and inflammation
10. Genetic basis of periodontal disease
11. Effect of systemic factors over periodontium
12. Effect of periodontal diseases over systemic health
13. Smoking and periodontium
14. Defense mechanism of gingival inflammation
15. Gingival enlargement
16. Acute gingival conditions
17. Desquamative gingivitis
18. Periodontal abscess
19. Periodontal pocket
20. Bone loss and patterns of bone loss
21. Chronic periodontitis
22. Aggressive periodontitis
23. AIDS & Periodontium
24. Periodontal response to external forces

FOR SAQ'S IN SECTION B TOPICS CONSIDERED ARE

1. Clinical diagnosis
2. Radiographic diagnostic aids
3. Dentin hypersensitivity
4. Splinting
5. Prognosis
6. Treatment plan
7. Treatment of periodontal emergencies
8. Non-surgical therapy
9. Surgical therapy
10. Periodontal-restorative inter relationships
11. Periodontal maintenance
12. Oral implantology

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DEPT. OF PROSTHODONTICS

The paper shall consist of two sections as follows:

Section A: for 50 marks (Complete Denture Prosthodontics)

Section B: for 50 marks (Removable & Fixed Partial Denture Prosthodontics)

LAQ = Long Essay Question

SAQ = Short Essay Question

VSAQ= Very Short Essay Question

Each paper shall contain the structure as follows:

- One long answer question for 15 marks (should be structured)
- Three short answer questions for 5 marks (3×5)
- Ten very short answer questions for 2 marks (10×2)

WEIGHTAGE OF QUESTIONS

SUBJECT	MARKS			
	LAQ	SAQ	VSAQ	TOTAL MARKS
Complete denture prosthodontics	15 (1 LAQ)	15(3 SAQ)	20 (10 VSAQ)	50
Removable & fixed partial denture prosthodontics	15 (1 LAQ)	15 (3 SAQ)	20 (10 VSAQ)	50
	30	30	40	100

Level of questions

Type of question	Percent
Easy	60
Average	30
Difficult	10

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SECTION A (COMPLETE DENTURE PROSTHODONTICS)

SL.NO	TOPIC	LAQ (1×15)	SAQ (3×5)	VSAQ (10×2)	50m
1.	Applied anatomy & physiology			1×2	2
2.	Diagnosis & treatment planning of edentulous patient			2×2	4
3.	Biological considerations of edentulous ridges			2×2	4
4.	Impression theories & techniques		1×5		5
5.	Posterior palatal seal			1×2	2
6.	Maxillomandibular relationship	1×15			15
7.	Teeth selection		1×5		5
8.	Complete denture occlusion			1×2	2
9.	Laboratory procedure			2×2	4
10.	Miscellaneous/special complete dentures		1×5		5
11.	Tooth supported complete denture			1×2	2

SECTION B (REMOVABLE & FIXED PARTIAL DENTURE PROSTHODONTICS)

SL.NO	TOPIC	LAQ (1×15)	SAQ (3×5)	VSAQ (10×2)	50m
1.	Classification of partially edentulous arches		1×5		5
2.	Components of removable partial denture		1×5		5
3.	Mouth preparation			1×2	2
4.	Surveying				-

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5.	Design principles & considerations of various partially edentulous arches			1×2	2
6.	Impression techniques for distal extension bases			1×2	2
7.	Fixed partial denture parts			1×2	2
8.	Biomechanical considerations of teeth preparation	1×15			15
9.	Die & die materials		1×5		5
10.	Impression techniques in FPD			1×2	2
11.	Provisional restoration			1×2	2
12.	Shade selection			1×2	2
13.	All ceramic restorations			1×2	2
14.	Fundamentals of occlusion in fpd			1×2	2
15.	Finishing & cementation			1×2	2

TIME FRAME

Questions should be framed in such a way that the candidate will be able to answer LAQ each within 30 minutes. So totally 2 LAQs within 60 minutes.

1 SAQ answer in 10 minutes. So totally 6 SAQ answered in 60 minutes

Candidates will be able to answer in 3 minutes for every VSAQ. So totally 20 VSAQ to be answered in 60 minutes

Distribution of questions

LAQ must be from complete denture prosthodontics in any one the following topics

a) Impression theories & techniques
b) Maxillomandibular relationship
    - Centric jaw relation
    - Vertical jaw relation
c) Posterior palatal seal
d) Teeth selection
    - Anterior teeth selection
e) Complete denture occlusion
    - Balanced occlusion
f) Tooth supported complete denture
    - Over denture

`

The LAQ must be dealt with the following headings in detail whenever possible

- Definition
- Classification
- Various methods/ factors influencing
- Advantages
- Dis advantages
- Clinical application

SAQ must be from the following topics:

a) Soft palate classification & its application
b) Retromylohyoid fossa
c) Mental attitude
d) Face bow & hinge axis
e) Articulators
f) Posterior teeth selection
g) Residual ridge resorption
h) Tongue position & clinical significance
i) Denture stomatitis
j) Relining & rebasing
k) Immediate denture
l) Implant materials
m) Osseointigration
n) Types of implants
o) Single complete denture
p) Obturator
q) Neutral zone
r) Selective pressure impression techniques
s) Post denture insertion problems & solutions
t) Retention
u) Stability
v) Support
w) SPA factor
x) Selective grinding procedure
y) Denture adhesive
z) Tissue conditioners

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LAQ must be from Removable & Fixed partial prosthodontics in any one the following topics

a) Components of removable partial denture
    - Direct retainer

b) Mouth preparation

c) Surveying & surveying principles

d) Impression techniques in distal extension bases

e) Fixed partial denture parts-Pontic

f) Biomechanical considerations of teeth preparation
    - Biomechanical principles of tooth preparation
    - Metal ceramic tooth preparation

g) Die material's & systems

SAQ must be from the following topics:

a) Indirect retainer

b) Major connector

c) Rest & rest preparation

d) Kennedy's classification

e) Applegate's rules

f) Minor connector

g) Tripoding

h) Kennedy's class I design consideration

i) Provisional restorations

j) Abutment selection

k) I bar & RPI

l) Resin bonded bridges

m) All ceramic material's

n) All ceramic restorations

o) Shade selection in FPD

p) Retainers in FPD

q) Connectors in FPD

r) Finish lines

s) Corrected cast techniques

t) Kelly's combination syndrome

u) Gingival retraction

v) Group function occlusion

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w) Luting agents
x) Articulators in FPD
y) Partial veneer crown
z) Impression techniques in FPD

Conservative Dentistry & Endodontics

Blue print of question paper

The paper shall consist of two sections as follows:

Section A: for 50 Marks (Conservative Dentistry)

Section B: for 50 Marks (Endodontics)

Each paper shall contain the structure as follows:

One long answer Question (LAQ)for 15 Marks (Should be structured)

Three Short answer questions (SAQ) for 5 marks (3x5= 15)

Ten very short answer questions (VSAQ) for 2 marks (2x10=20) (Should test the recall generally)

WEIGHTAGE OF QUESTIONS

SUBJECT	MARK ALLOTMENT			
	LAQ	SAQ	VSAQ	TOTAL MARKS
CONSERVATIVE DENTISTRY	15	15	20	50
ENDOONTICS	15	15	20	50
	30	30	40	100

LEVEL OF QUESTIONS

TYPE OF QUESTIONS	PERCENT
EASY	60
AVERAGE	30
DIFFICULT	10

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Section : 1

SECTION:A (Conservative Dentistry)

If LAQ from Silver Amalgam, the matrix is as follows					
S.No	**Topic**	**LAQ (1x15)**	**SAQ (3x5)**	**VSAQ (10x2)**	50 **MARKS**
1.	Pit and Fissure sealants		1x5		5
2.	Silver Amalgam	1x15			15
3.	Isolation			2x2	4
4.	Bonding agents			2x2	4
5.	Micro leakage			2x2	4
6.	Glass Ionomer cement		1x5		5
7.	Colour and its applications			2x2	4
8.	Direct filing gold		1x5		5
9.	Pins restorative dentistry			2x2	4

If LAQ from dental composites, the matrix is as follows					
S.No	**Topic**	**LAQ (1x15)**	**SAQ (3x5)**	**VSAQ (10x2)**	50
1.	Dental Composites	1x15			15
2.	Bonding agents		1x5		5
3.	Colour and its applications			2x2	4
4.	Micro leakage			2x2	4
5.	Glass Ionomer cement		1x5		5
6.	Pins restorative dentistry			2x2	4
7.	Direct filing gold		1x5		5
8.	Liners, base			2x2	4
9.	Amalgam			2x2	4

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SECTION:B (Endodontics)

If LAQ from working length determination of pulp the matrix is as follows					
S.No	Topic	LAQ (1x15 marks)	SAQ (3x5 marks)	VSAQ (10x2 marks)	50 marks
1.	Pathologies of pulp and periapex			2x3	6
2.	Endodontic micro biology		1x5		5
3.	Diagnostic procedures			2x2	4
4.	Differencial diagnosis of pulp			2x3	6
5.	Disinfectants		1x5		5
6.	Endodontic instruments			2x2	4
7.	Internal Anatomy of pulp		1x5		5
8.	Working length determination of pulp	1x15			15

If LAQ from cleaning and shaping the matrix is as follows					
S.No	Topic	LAQ (1x15 marks)	SAQ (3x5 marks)	VSAQ (10x2 marks)	50 marks
1.	Irrigation			2x2	4
2.	Intra canal medicament		1x5		5
3.	Cleaning and shaping	1x15			15
4.	Obturation			2x2	4
5.	Endodontic emergencies		1x5		5
6.	Procedural accidents			2x2	4
7.	Endodontic failures		1x5		5
8.	Surgical Endodontics			2x2	4
9.	Endodontic periodontal relation			2x2	4

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TIME FRAME

Question should be framed in such a way that the candidates will be able to answer LAQ within 30 Minutes
So totally LAQS within 60 Minutes (1 hr)
1 SAQs answer in 10 Minutes so totally 6 SAQs answered in 60 Minutes (1 hr)
3 Mints for VSAQs, 20 VSAQ in 60 Minutes (1 hr)

DISTRIBUTION OF QUESTIONS

LAQ from **Conservative Dentistry** in any one of the following topics:

A). Dental Caries
B). Diagnosis and treatment planning
C) Cutting instruments
D) Isolation of operating field\.
E) Asepsis
F) Principles of cavity preparation
G) Silver Amalgam – Cavity preparation and restorative techniques.(Class I , Class II , ClassV)
H) Pins in restorative dentistry
I) Direct filling gold.
J) Dentin bonding agents.
K) Composite resin – cavity preparation and restorative techniques. (Class I , Class II , Class III, Class IV, Class V)
L) Contacts & Contours
M) Dental ceramics
N) Cast restoration
O) Liners, varnish and bases
P) Age changes in tooth and techniques

SAQ from **CONSERVATIVE DENTISTRY** must be from the following topics

A) Pit and fissures sealants.
B) Root caries managements
C) Biologic width
D) Forces acting on restorations
E) Radiographs in operative dentistry.
F) Isolation of operating field
G) Matrix band and wedges

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H) Interim restoration

I) Dental cement

J) Color and its applications

K) Finishing and polishing

L) Liners and bases

LAQ must be from **Endodontics i**n any one of the following topics

A) Pathologies of pulp & Periapex

B) Diagnostic procedures

C) Differential diagnosis of pulp

D) Irrigation

E) Working length determination of pulp

F) Cleaning and shaping

G) Obturation

H) Endodontic periodontal relation.

I) Restoration of Endodontically treated teeth.

SAQ must be from **Endodontics** in any one of the following topics:

A)Endodontic Microbiology

B) Disinfectants

C)Endodontic instruments

D)Internal anatomy of pulp

E)Intracanal Medicament

F)Endodontic Emergencies

G)Endodontic Failures

H)Bleaching

I)Tooth discoloration

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ORAL AND MAXILLOFACIAL SURGERY

Blue print of question paper

The paper shall consist of two sections as follows:

Section A: for 50 marks

Section B:for 50 marks

LAQ= Long answer question

SAQ=Short answer question

VSAQ=Very short answer Question

Each paper shall contain the structure as follows:

One long answer question(LAQ) for 15 marks

Three Short answer questions(SAQ) for 5 marks(3x5=15)

Five very short answer questions(VSAQ) for 2 marks (2x10=20)

WEIGHTAGE OF QUESTIONS

SUBJECT	**Marks**			
	LAQ	**SAQ**	**VSAQ**	**TOTAL MARKS**
MINOR ORAL SURGERY	15	15(3 SAQ)	20(10 VASQ)	50
ORAL AND MAXILLOFACIAL SURGERY	15	15(3 SAQ)	20(10 VASQ)	50
	30	30	40	100

LEVEL OF QUESTIONS

TYPE OF QUESTIONS	**PERCENT**
Easy	60
Average	30
Difficult	10

`

SECTION 1

SECTION A(MINOR ORAL SURGERY)

If LAQ from preprostheticsurgery,the matrix is asfollows

S.no	Topic	LAQ (1x15)	SAQ(3x5)	VSAQ(10x2)	50
1	Local anaesthesia		1x5		5
2	Exodontia/impaction			2x2	4
3	Endodontic surgery			2x2	4
4	Preprosthetic surgery	1x15			15
5	Dental implantology			2x2	4
6	Suturing materials and techniques			2x2	4
7	Asepsis and sterilization		1x5		5
8	Armamentarium			2x2	4
9	Medically compromised patients		1x5		5

If LAQ from Exodontia/impaction,the matrix is as follows

S.no	Topic	LAQ (1x15)	SAQ(3x5)	VSAQ(10x2)	50
1	Local anaesthesia		1x5		5
2	Exodontia/impaction	1x15			15
3	Endodontic surgery			2x2	4
4	Preprosthetic surgery		1x5		5
5	Dental implantology			2x2	4
6	Suturing materials and techniques		1x5		5
7	Asepsis and sterilization			2x2	4
8	Armamentarium			2x2	4
9	Medically compromised patients			2x2	4

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SECTION B-ORAL AND MAXILLOFACIAL SURGERY

If LAQ from maxillofacial trauma,the matrix is as follows

S.no	**Topic**	**LAQ(1X15)**	**SAQ(3x5)**	**VSAQ(10x2)**	**50**
1	Maxillofacial Trauma	1x15			15
2	Space infections		1x5		5
3	Dentofacial deformities			2x2	4
4	Tmj		1x5		5
5	Maxillofacial pathologies			2x2	4
6	General anaesthesia			2x2	4
7	Medical emergencies		1x5		5
8	Cleft lip and palate			2x2	4
9	Recent advances			2x2	4

If LAQ from maxillofacial pathologies,the matrix is as follows

S.no	**Topic**	**LAQ(1X15)**	**SAQ(3x5)**	**VSAQ(10x2)**	50
1	Maxillofacial Trauma		1x5		5
2	Space infections			2x2	4
3	Dentofacial deformities		1x5		5
4	Tmj			2x2	4
5	Maxillofacial pathologies	1x15			15
6	General anaesthesia			2x2	4
7	Medical emergencies			2x2	4
8	Cleft lip and palate		1x5		
9	Recent advances			2x2	4

TIME FRAME

Questions should be framed in such a way that the candidates will be able to answer LAQ each within 30 minutes .So totally 2 LAQs within 60 mins(1 Hr).

1 SAQ answer in 10 minutes.So totally 6 SAQ answered in 60 minutes(1 hr)

Candidates will be able to answer in 3 mins for every VSAQ.So total 20 VSAQ to be answered in 60 minutes.

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DISTRIBUTION OF QUESTIONS

1 LAQ must be from minor oral surgery in any one of following topics

a) Exodontia /impaction
b) Preprosthethic surgery
c) Sterilisation and disinfection

The LAQ must be dealt with the following headings in detail whenever possible

1. Definition
2. Classification
3. Clinical features
4. Investigations- clinical,laboratory/radiographic
5. Radiographic appearances /treatment

1 LAQ must be from oral and maxillofacial surgery in any one of the following topics

A. Maxillofacial trauma
B. Tmj
C. Maxillofacial pathologies

SAQ must be from the following topics

A. Sterilisation
B. Exodontia
C. Armanentarium
D. Local anaesthesia
E. General anasethesia
F. Medically compromised patients
G. Suture materials

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PUBLIC HEALTH DENTISTRY

The paper shall consist of two sections as follows:

Section A and B: for 100 marks (Public Health Dentistry)

LAQ=Long Answer Question

SAQ=Short Answer Question

VSAQ=Very Short Answer Question

Paper shall contain the structure as follows:

1. Two long answer question (LAQ) for (2x15=30)30 marks (Should be structured)
2. Six short answer questions (SAQ) for 5 marks (6x5=30)
3. Twenty very short answer questions (VSAQ) for 2 marks (20x2=40) (Should test the recall generally)

QUESTION PATTERN:

SUBJECT	MARKS			
	LAQ	SAQ	VSAQ	TOTAL MARKS
PUBLIC HEALTH DENTISTRY	30(2 LAQ) (2x15=30)	30(6 SAQ) (6x5=30)	40(20 VSAQ) (20x2=40)	100

LEVEL OF QUESTIONS:

DIFFICULTY LEVEL	PERCENTAGE
Easy	60
Medium	30
Difficult	10

`

SECTION A and B:

S.No	Topic	LAQ	SAQ	VSAQ
1	Introduction to dentistry	0	1	0
2	Research methodology & biostatistics	0	7	6
3	Public health	0	1	
4	Concepts of health and disease	0	8	10
5	Epidemiology	3	5	3
6	Environment & health	2	11	8
7	Health education	1	10	4
8	Health care delivery system	1	12	1
9	International Health Organizations	1	2	0
10	National health programmes	0	1	0
11	Occupational hazards	0	2	0
12	Dental public health	1	6	0
13	Epidemiology of dental caries	3	10	0
14	Epidemiology of periodontal disease	2	9	1
15	Epidemiology of oral cancer	2	2	3
16	Epidemiology of malocclusion	2	2	0
17	Indices	1	6	1
18	Planning	1	1	0
19	Survey	1	7	0
20	Dental auxiliaries	1	9	2
21	Finance in dental care	2	7	1
22	School oral health programmes	2	5	1
23	Ethics	0	4	0
24	World health organization	1	0	0
25	Dental Council of India	0	1	0
26	Indian dental Association (IDA)	0	1	0
27	Consumer protection act (COPRA)	0	1	0

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28	Dentist act	0	1	0
29	National oral health policy	0	1	0
30	Fluorides in dentistry	3	13	3
31	Pit and fissure sealants	0	4	1
32	Atraumatic restorative treatment	0	3	1
33	Nutrition and oral health	1	6	6
34	Behavioral sciences	1	6	1
35	Oral health care for special groups	0	4	0

DISTRIBUTION OF QUESTIONS:

2 LAQ must be from the following chapters:

- Epidemiology
- Environment & health
- Health education
- Health care delivery system
- International Health Organizations
- Dental public health
- Epidemiology of dental caries
- Epidemiology of periodontal disease
- Epidemiology of oral cancer
- Epidemiology of malocclusion
- Indices
- Planning
- Survey
- Dental auxiliaries
- Finance in dental care
- School oral health programmes
- World health organization
- Fluorides in dentistry
- Nutrition and oral health
- Behavioral sciences

6 SAQ must be from any one of the following topics:

- Introduction to dentistry
- Research methodology & biostatistics

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- Public health
- Concepts of health and disease
- Epidemiology
- Environment & health
- Health education
- Health care delivery system
- International Health Organizations
- National health programmes
- Occupational hazards
- Dental public health
- Epidemiology of dental caries
- Epidemiology of periodontal disease
- Epidemiology of oral cancer
- Epidemiology of malocclusion
- Indices
- Planning
- Survey
- Dental auxiliaries
- Finance in dental care
- School oral health programmes
- Ethics
- Dental Council of India
- Indian dental Association (IDA)
- Consumer protection act (COPRA)
- Dentist act
- National oral health policy
- Fluorides in dentistry
- Pit and fissure sealants
- Atraumatic restorative treatment
- Nutrition and oral health
- Behavioral sciences

20 VSAQ must be from any one of the following topics:

- Research methodology & biostatistics
- Public health
- Concepts of health and disease

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- Epidemiology
- Environment & health
- Health education
- Health care delivery system
- Epidemiology of periodontal disease
- Epidemiology of oral cancer

- Indices
- Dental auxiliaries
- Finance in dental care
- School oral health programmes
- Fluorides in dentistry
- Pit and fissure sealants
- Atraumatic restorative treatment
- Nutrition and oral health
- Behavioral sciences

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B.D.S UNIVERSITY EXAMINATION PATTERN
(THEORY & PRACTICALS/CLINICALS)

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I YEAR BDS

S.No.	SUBJECT	MARKS	
		THEORY	PRACTICAL
1	GENERAL ANATOMY INCLUDING EMBRYOLOGY AND HISTOLOGY	100	100
2	GENERAL HUMAN PHYSIOLOGY & BIOCHEMISTRY	100	100
3	DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY	100	100
4	ENVIRONMENTAL STUDIES	100	No practical

THEORY & PRACTICAL MARK DISTRIBUTION FOR ALL SUBJECTS:

THEORY - 100 MARK	PRACTICALS / CLINICALS - 100 MARK
UNIVERSITY WRITTEN EXAM 70	UNIVERSITY EXAM 90
VIVA VOCE 20	INTERNALASSESSMENT 10
INTERNAL ASSESSMENT 10	**TOTAL - 100**
TOTAL - 100	

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GENERAL ANATOMY INCLUDING EMBRYOLOGY AND HISTOLOGY

MODEL QUESTION PAPER (Paper - I)

SECTION - A : 35 Marks	**SECTION - B : 35 Marks**
• Gross anatomy of head & neck • General anatomy • General histology • General embryology • Genetics	• Gross anatomy of neuroanatomy • Systemic histology • Systemic embryology • Gross anatomy of head & neck

SECTION A

S.No	**Topics**	**Essay (1x10=10 Marks)**	**SAQ (3x5=15 Marks)**	**MCQS (10x1=10 Marks)**	**Total Marks**
1	Gross Anatomy of head & neck	1X10=10	2X5=10 (region not covered in Essay)	4X1 =04 (Gross anatomy of head, region not covered in Essay/SAQ)	24
2	General anatomy			2X1=02	2
3	General histology General embryology		1X5=05	2X1=02 2X1=02	2 / 07 2 / 07
4	Genetics			1X1=01	1
	Total	10	5	10	35

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SECTION B

S.No	Topics	Essay (1x10=10 Marks)	SAQ (3X5=15 Marks)	MCQs (10X1=10 Marks)	Total Marks
1	Gross anatomy of neck	1X10=10	1X5=5 (region not covered in Essay) 1X5=05 (Gross Anatomy of neck region not covered in Essay)	4X1 =04 (Gross Anatomy of neck region not covered in Essay/SAQ))	19
2	Systemic histology		1X5=05	2X1=02	7/02
3	Systemic embryology			2X1=02	7/02
4	Gross Anatomy of neuroanatomy		1X5=05	2X1=02	7
	Total	10	15	10	35

Practical Examination

University Exam (Practical's) = 90 Marks

Internal assessment (Practical's) = 10 Marks

Total = 100 Marks

The Anatomy Practical Examination shall be for 90 marks as follows:

Practical Exercises = 80 marks

Record = 10 marks

Practical Exercise (40 Spotters x 2 Marks = 80 marks

1. Gross = 25 spotters

Head and Neck = 15 spotters

Neuroanatomy, Thorax and Abdominal organs = 10 spotters

2. Histology = 15 spotters

General histology = 5 spotters

Systemic histology = 10 spotters

3. Record = 10 Marks

Total = 90 Mark

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Internal Assessment (practicals) = 10 Marks

GRAND TOTAL = 100 Marks

Marks of Viva voce (20 Marks) conducted during practical examination will be added along with the University theory written examination

GENERAL HUMAN PHYSIOLOGY & BIOCHEMISTRY

MODEL QUESTION PAPER (Paper -II)

Section - A :GENERAL HUMAN PHYSIOLOGY

Section - B :BIOCHEMISTRY

Each section comprises of:

Type of question	**Number x Marks**	**Total Marks**
Multiple choice questions	10 X 1	10
Essay	1 X10	10
Short notes	3X5	15
TOTAL		35

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Section - A:GENERAL HUMAN PHYSIOLOGY

S. No.	Topics	Essay (1X10=10 Marks)	SAQ (3X5=15 Marks)	MCQs (10X1=10 Marks)	Total Marks
1	CVS/ Endocrinology/ CNS	1X10=10 (CVS / Endocrinology /CNS)	-----	-----	10
2	From system not included in essay and Renal system / Respiratory physiology & GIT	-----	3 X 5 = 15	-----	15
3	Blood	-----	-----	2 X1 =2	02
4	Nerve muscle physiology	-----	-----	2 X1 =2	02
5	General physiology	-----	-----	2 X1 =2	02
6	Reproductive system	-----	-----	2 X1 =2	02
7	Special senses	-----	-----	2 X1 =2	02
	TOTAL	**10**	**15**	**10**	**35**

Section - B : BIOCHEMISTRY

TOTAL MARKS=35 MARKS

1. 1 ESSAY 1X10=10 MARKS
2. 3 X 5 MARKS (Short Notes) 5 X 3 =15MARKS
3. MCQ : 10 Questions 10 X 1 =10 Marks

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GENERAL HUMAN PHYSIOLOGY & BIOCHEMISTRY

(Practical Examination)

GENERAL HUMAN PHYSIOLOGY (Practicals) 50 Marks

University Exam (Practicals)	= 45 Marks
Internal assessment (Practicals)	= 5Marks
Total	= 50 Marks

University Exam pattern for practical Exam :

Major Experiment	= 12 Marks
Minor Experiment	= 8Marks
Chart	= 10Marks
Calculation	= 10Marks
Record	= 5 Marks
Total	**= 45Marks**

Marks of Viva voce (10 Marks) conducted during practical examination will be added along with the University theory written examination

BIOCHEMISTRY (Practicals) 50 Marks

University Exam (Practicals)	= 45 Marks
Internal assessment (Practicals)	= 5Marks
Total	= 50 Marks

University Exam pattern for practical Exam

Quantitative Estimations	= 15 Marks
Qualtitative Estimations	= 10 Marks
Charts	= 5 Marks
Spotters	= 10 Marks
Record	= 5 Marks
Total	**= 45Marks**

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DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

PAPER- III

I. THEORY

Written - University	=	70 Marks
Viva Voce	=	20 Marks
Internal Assessment (Theory)	=	10 Marks
Total	**=**	**100 Marks**

The Theory paper shall consist of two sections as follows

Each section comprises of:

Type of question	Number x Marks	Total Marks
Multiple choice questions	10 X 1	10
Essay	1 X10	10
Short notes	3X5	15
TOTAL		**35**

SECTION - A : ORAL HISTOLOGY & EMBRYOLOGY

Essay Question	- 1x10 Marks	= 10 Marks
Short Notes	- 3x5 Marks	= 15 Marks
Multiple Choice Questions(MCQ)	- 10x1 Marks	= 10 Marks
Total		**= 35 Marks**

SECTION - B : TOOTH MORPHOLOGY, ORAL ANATOMY & ORAL PHYSIOLOGY

Essay Question	- 1x10 Marks	= 10 Marks
Short Notes	- 3x5 Marks	= 15 Marks
Multiple Choice Questions(MCQ)	- 10x1 Marks	= 10 Marks
Total		**= 35Marks**

TOTAL **= 70 Marks**

= 90 Marks

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PRACTICAL EXAMINATION

University Exam (Practicals)	
Internal assessment (Practicals)	= 10 Marks
Total	**= 100 Marks**

University Practical Examination shall be for 90 marks as follows:

Histology Slides	6x5 Marks	= 30 Marks
Age estimation in models	2x5 Marks	= 10 Marks
Natural teeth spotters	4x2.5 Marks	= 10 Marks
Tooth Carving		= 30 Marks
Record		= 10 marks
Total		**= 90 Marks**

Internal Assessment (Practicals)	=	10 Marks
GRAND TOTAL	**=**	**100 Marks**

ENVIRONMENTAL STUDIES

PAPER IV

THEORY	75MARK
UNIVERSITY WRITTEN EXAM	70
VIVA VOCE	20
INTERNAL ASSESSMENT	10
Total -	**100**

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II YEAR B.D.S

S.No.	SUBJECT	MARKS	
		THEORY	PRACTICAL
1	GENERAL PATHOLOGY & GENERAL MICROBIOLOGY	100	100
2	GENERAL & DENTAL PHARMACOLOGY AND THERAPEUTICS	100	100
3	DENTAL MATERIALS	100	100
4	PRE-CLINICAL CONSERVATIVE DENTISTRY	-	100
5	PRE-CLINICAL PROSTHODONTICS	-	100

Theory & Practical Mark Distribution for all Subjects :

Theory - 100 Mark		**Practicals / Clinicals - 100 Mark**	
University written exam	70	University exam	90
Viva voce	20	Internal assessment	10
Internal assessment	10	**Total -**	**100**
Total -	**100**		

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GENERAL PATHOLOGY AND MICROBIOLOGY

PAPER 1

SECTION - A: General Pathology (35 Marks)

SECTION - B: General Microbiology (35 Marks)

Each section comprises of:

Type of question	Number x Marks	Total Marks
Multiple choice questions	10 X 1	10
Essay	1 X10	10
Short notes	3X5	15
TOTAL		**35**

SECTION - A : GENERAL PATHOLOGY

One essay questions	- 10x1	= 10 Marks	
Five marks questions	- 5x3	= 15 Marks	
Multiple Choice Questions	- 1X10	=	10 Marks
Total		**= 35 Marks**	

SECTION - B:GENERAL MICROBIOLOGY

(*Introduction to Bacteriology, Immunology, Systemic Bacteriology, Virology, Parasitology, Mycology, Applied Microbiology***)**

Essay Question	- 1x10	=	10	Marks
Short Notes Questions	- 3x5	=	15	Marks
MCQ Questions	- 10x1	=	10	Marks
Total		**=**	**35**	**Marks**

GRAND TOTAL = 70 Marks

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GENERAL PATHOLOGY (Practical)- 50 Marks

Practical: for 45 marks + IA marks (05) = 50

Practical I	**Marks**
Ten spotters-Instruments (2), Histopathology slides (6), Haematology slides(2)	10marks
Practical II	**Marks**
Hematology-Majorexercise-Total RBCcount/Total WBCcount/DC	15 Marks
Hematology Minor exercise- Hemoglobin (Sahli's method) or blood grouping	05 Marks
Urine analysis- Any two abnormal constituents	05 Marks
Objective Structured Clinical Evaluation	05Marks
Record	05 Marks
Total Practical Examination	45 Marks
Internal Assessment Practical IA marks	05 Marks
Grand Total	**50 Marks**

Marks of Viva voce (10 Marks) conducted during practical examination will be added along with the University theory written examination

GENERAL MICROBIOLOGY (Practical) - 50 Marks

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GENERAL MICROBIOLOGY (Practical)

PRACTICALS (University)		**45 Marks**
Spotters (5X2Marks)	-	10Marks
Gram Staining	-	10Marks
Acid Fast Staining	-	10Marks
OSPE (Skilled & Unskilled)	-	5 Marks
Applied Exercises	-	5Marks
Record	-	5Marks
Total	**-**	**45 Marks**
Internal Assessment (practicals)	-	5 Marks
GRANDTOTAL	**=**	**50Marks**

Marks of Viva voce (10 Marks) conducted during practical examination will be

added along with the University theory written examination

GENERAL & DENTAL PHARMACOLOGY AND THERAPEUTICS- PAPER II

The Theory paper shall consist of two sections as follows:

SECTION - A	**SECTION - B**
General pharmacology	Chemotherapy
Central Nervous System	Gastro Intestinal Tract & Hormones
Autonomic Nervous System	Respiratory system & Autacoids
Cardio Vascular System & Diuretics	Miscellaneous - Vitamins,
	Blood, Chelating agents.

`

Each section shall contain the structure as follows:

I. One Long answer question (LAQ) for 10 Marks (Should be structured)

II. Three Short answer question (SAQ) for 5 Marks (3 x 5 = 15)

III. Multiple Choice question (MCQ) (1 x 10 = 10) (Should test the recall generally)

PRACTICALS **(100 Marks)**

Practical Examination - 90 Marks

PRACTICAL - I **(40 Marks)**

Antiseptic Formulations	- 2 Nos	=	20	Marks
Non antiseptic formulations	- 2 Nos	=	20	Marks

Total **= 40 Marks**

PRACTICAL - II

I. Prescription writing - 2 Nos = 20 Marks

a. Systemic Pharmacology

b. Dental Pharmacology

II. Case history - 1 No = 10 Marks

III. Clinical pharmacology chart - 1 No = 5 Marks

IV. Spotters - 1 No = 5 Marks

Total **=(40 marks)**

Record = 10 Marks

Practical Examination = 90 Marks

Internal Assessment(Practicals) = 10 Marks

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DENTAL MATERIALS

PAPER III- MODEL THEORY QUESTION PAPER

THEORY – 100 Marks		PRACTICALS / CLINICALS – 100 Marks	
University Written Exam - 70 Marks		University Exam	- 90Marks
Viva Voce	- 20 Marks	Int. Asset. Exam	- 10Marks
Int. Asset. Exam	- 10 Marks	**Total**	**-100 Marks**
Total	**-100 Marks**		

The Written 70 Marks can split as follows:

SECTION - A =35 Marks (Prosthodontics)

SECTION - B =35 Marks (Conservative Dentistry)

EACH SECTION COMPRISED AS :

1. Essay	=	1x10	= 10 Marks
2. Short Notes	=	3x5	= 15 Marks
3. MCQ	=	10x1	= 10 Marks
Total Marks	=		35 Marks

UNIVERSITY PRACTICAL EXAMINATION

DENTAL MATERIALS (CONSERVATIVE DENTISTRY) TOTAL MARKS 50

PRACTICAL (45 MARKS)				INTERNAL ASSESSMENT
MATERIAL MANIPULATION (20 MARKS)		SPOTTERS	RECORD	5 MARKS
MANIPULATION	SPOT VIVA			
15 MARKS	5 MARKS	20 MARKS	5 MARKS	

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Marks of Viva voce (10 Marks) conducted during practical examination will be added along with the University theory written examination

DENTAL MATERIALS (PROSTHODONTICS) TOTAL MARKS 50

PRACTICAL (45 MARKS)				INTERNAL ASSESSMENT
MATERIAL MANIPULATION (20 MARKS)		SPOTTERS	RECORD	5 MARKS
MANIPULATION	SPOT VIVA			
15 MARKS	5 MARKS	20 MARKS	5 MARKS	

Marks of Viva voce (10 Marks) conducted during practical examination will be added along with the University theory written examination

PRE-CLINICAL PROSTHODONTICS

Only Practical & Viva Voce (Total 100 marks)

PRACTICAL (80 MARKS)					INTERNAL (20 MARKS)	
OCCLUSAL RIMS	ARTICULATION	TEETH SETTING	FINISHING & POLISHING	VIVA VOCE	INTERNAL ASSESSMENT	RECORD
5 Marks	10 Marks	40 Marks	5 Marks	20 Marks	10 Marks	10 Marks

The candidates failing in pre clinical practical exams and vivavoice but have passed in other exams are permitted to join III year BDS course. Unless he/She passes these pre clinical subjects will not be permitted to appear for the III BDS examination

PRE-CLINICAL CONSERVATIVE DENTISTRY

Only Practical & Viva Voce

PRACTICAL (80 MARKS)					INTERNAL (20 MARKS)	
CAVITY PREPARATION	BASE	MATRIX & RETAINER	AMALGAM RESTORATION	VIVA VOCE	INTERNAL ASSESSMENT	RECORD
30 Marks	7.5 Marks	**7.5 Marks**	**15 Marks**	**20 Marks**	10 Marks	10 Marks

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III YEAR B.D.S

S.NO.	SUBJECT	MARKS	
		THEORY	PRACTICAL
1	GENERAL MEDICINE	100	100
2	GENERAL SURGERY	100	100
3	ORAL PATHOLOGY AND ORAL MICROBIOLOGY	100	100
4	DENTAL ENGINEERING	70	-

Theory & Practical Mark Dlistribution for all Subjects :

THEORY - 100 MARK		PRACTICALS / CLINICALS - 100 MARK	
UNIVERSITY WRITTEN EXAM	70	UNIVERSITY EXAM	90
VIVA VOCE	20	INTERNAL ASSESSMENT	10
INTERNAL ASSESSMENT	10	**TOTAL -**	**100**
TOTAL -	**100**		

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GENERAL MEDICINE

PAPER I

University Exam Question Pattern:

Time : Three Hours **Maximum : 100Marks**

SECTION - A **(35 Marks)**

1.	Elaborate answer	- 1 X 10 =	10 Marks
2.	Shortanswer	- 3 X 5	= 15 Marks
3.	MCquestions	- 10x1	= 10 Marks
	Total	**-**	**35 Marks**

SECTION - B **(35 Marks)**

1.	Elaborate answer	- 1 X 10 =	10 Marks
2.	Shortanswer	- 3 X 5	= 15 Marks
3.	MCquestions	- 10x1	= 10 Marks
	Total	**-**	**35 Marks**

Viva Voce - 20Marks

Internal Marks - 10Marks

Practical Examination **Total - 100Marks**

Long case presentation	-	50Marks
Short case presentation	-	40 Marks
Internal assessment marks	-	10 Marks
Total	**-**	**100 Marks**

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GENERAL SURGERY

PAPER-II

University Exam Question Pattern

Time : Three Hours Maximum : 100 Marks

SECTION - A		**(35 Marks)**	
1 Elaborate answer	-	1 X 10 =	10 Marks
2. Short answer	-	3 X 5 =15 Marks	
3. MC questions	-	10 x 1 =	10 Marks
Total	**-**	**35 Marks**	
SECTION - B		**(35 Marks)**	
1. Elaborate answer	-	1 X 10 =	10 Marks
2. Short answer	-	3 X 5 =	15 Marks
3. MC questions	-	10 x 1 =	10 Marks
Total	**-**		**35 Marks**

Viva Voce - 20 Marks

Internal Marks - 10 Marks

Practical Examination **Total - 100 Marks**

Long case presentation	-	50 Marks
Short case presentation	-	40 Marks
Internal assessment marks	-	10 Marks
Total	**-**	**100 Marks**

ORAL & MAXILLOFACIAL PATHOLOGY

PAPER III

University Exam Question Pattern:

Time : Three Hours **Maximum : 100Marks**

SECTION - A **(35 Marks)**

1. Elaborate answer	-	1 X 10 =	10 Marks
2. Short answer	-	3 X 5	= 15 Marks
3. MC questions	-	10 x 1	= 10 Marks
Total	**-**		**35 Marks**

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SECTION - B **(35 Marks)**

1. Elaborate answer - 1 X 10 = 10 Marks
2. Short answer - 3 X 5 = 15 Marks
3. MC questions - 10 x 1 = 10 Marks

Total - 35 Marks

Viva Voce - 20Marks

Internal Marks - 10Marks

Practicals **Total - 100 Marks**

Slidesandspotters = 90Marks

InternalAssessment = 10 Marks

Total = 100Marks

Dental Engineering

MODEL QUESTION PAPER (PAPER IV)

Theory paper (total) = 70 marks
Internals = 30 marks

Total = 100 marks

Section A	Essay 2x10=20 marks
Section B	Short notes 10x5=50 marks
Internal Assessment	30 marks
Total	100 marks
Pass criteria	50/100 marks

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IV BDS (NEW REGULATIONS)

S.No.	SUBJECT	MARKS	
		THEORY	PRACTICAL
1	ORAL MEDICINE & RADIOLOGY	100	100
2	ORAL & MAXILLO FACIAL SURGERY	100	100
3	PERIODONTOLOGY	100	100
4	CONSERVATIVE DENTISTRY & ENDODONTICS	100	100
5	ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS	100	100
6	PEDIATRIC AND PREVENTIVE DENTISTRY	100	100
7	PROSTHODONTICS AND CROWN AND BRIDGE	100	100
8	PUBLIC HEALTH DENTISTRY	100	100

Theory& Practical Mark Distribution for all Subjects

Theory - 100 Mark		Practicals / Clinicals - 100 Mark	
University written exam	100 Marks	University exam	50 Marks
		Viva Voce	20 Marks
		Internal assessment	30 Marks
Total -	**100 Marks**	**Total -**	**100 Marks**

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UNIVERSITY EXAMNATION THEORY QUESTION PATTERN

Time : Three Hours Maximum : 100 Marks

(50 Marks)

SECTION - A

a. Essay	LAQ	- 1 X 15	=	15 Marks
b. Write Short note	SAQ	- 3 X 5		= 15 Marks
c. Write briefly	VSAQ	- 10 x 2		= 20 Marks
Total		-		50 Marks

(50 Marks)

SECTION - B				
a. Essay	LAQ	- 1 X 15	=	15 Marks
b. Write Short note	SAQ	- 3 X 5		= 15Marks
c. Write briefly	V SAQ	- 10 x 2		= 20Marks
Total		-		50 Marks

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UNIVERSITY PRACTICAL EXAMINATION PATTERN

I. ORAL MEDICINE & RADIOLOGY — Total - 100 Marks

History and case presentation	- 20 Marks
Stage viva	- 5 marks
IOPA Taking	- 20 marks
Interpretation	- 5 marks
Internals	- 30 Marks
Viva	- 20 Marks
Total	**- 100 Marks**

II. ORAL & MAXILLO-FACIAL SURGERY

A .Practicals	**- 50MARKS**
Case history and viva	-15 Marks
Local anaesthesia and viva	-15Marks
Extraction and viva	-20 Marks
B. Viva	**-20 Marks**
Spotters	- 5 Marks
Theory	-15Marks
Internals	-30 Marks
Total	**- 100 Marks**

II. PERIODONTOLOGY

Clinical. Case Sheet	- 20 Marks
Spotters	- 10 Marks
Oral prophylaxis	- 20 Marks
Theory Orals	- 20 Marks
Internals marks	- 30 Mark
Total	**- 100rks**

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CONSERVATIVE DENTISTRY & ENDODONTICS

Total - 100marks

EXTERNAL (70 MARKS)				INTERNAL (30 MARKS)			
Practical (50 Marks)			Viva (20 Marks)	Theory 20 Marks		Practical 10 Marks	
Cavity Preparation	Base, matrix wedge	Restoration	Viva	(3) Internal Assessment Average	Library Assignment	Internal Practical Examination	Clinical Record and work completion
25 Marks	15 Marks	10 Marks	20 Marks	15 Marks (15+15)	5 Marks	5 Marks	5 Marks

IV. ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

PRACTICAL EXAMINATION **Maximum : 100 Marks**

A. Practical **- 50 Marks (Minimum Pass Marks-25)**

i. Case History - 20 Marks

ii. Wire Bending - 20 Marks (2 Exercise; 10 Marks each)

iii. Spotters - 10 Marks (5x2 = 10 Marks)

B. Viva (Orals) **- 20 Marks**

C. Internal Assessment-30 marks

V. PEDIATRICS & PREVENTIVE DENTISTRY

Practical exam mark allotment: **Maximum : 100 Marks**

1. PRACTICALS TOTAL **- 50 Marks**

Case history - 10 marks

Tooth identification - 10 marks

Diagnosis and treatment plan - 10 marks

Chair side viva - 10 mark

Treatment - 10 marks

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2. INTERNALS - 30 Marks

3. GRAND VIVA - 20 Marks

VI. PROSTHODONTICS , CROWN AND BRIDGE

Practical exam mark allotment: Maximum : 100 Marks

1. PRACTICALS TOTAL - 50 Marks

Case preparation and case history taking - 10 marks

Border moulding - 10 marks

Impression making - 10 marks

Tooth preparation - 20 marks

2. INTERNALS - 30 Marks

3. VIVA (Practicals + Theory) 10+10 - 20 Marks

VII. PUBLIC HEALTH DENTISTRY

Practical Exam Mark Distribution

CASE SHEET	INDICES	PREVENTIVE PROCEDURE	PROJECT	CHAIR SIDE VIVA	THEORY VIVA	TOTAL MARKS
10	10	10	10	10	20	70

Internal Mark Distribution

ATTENDANCE %	TERM EXAMS	RECORD BOOK	TOTAL MARKS
10	10	10	30

Practical Examination Mark (70) + Internal Mark (30)

(70+30) Total - 100 Marks

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IV YEAR B.D.S

(Revised Regulations- From final year August 2019-2020 Batch)

S.No.	SUBJECT	MARKS	
		THEORY	PRACTICAL
1	ORAL MEDICINE & RADIOLOGY	100	100
2	ORAL & MAXILLO FACIAL SURGERY	100	100
3	PERIODONTOLOGY	100	100
4	CONSERVATIVE DENTISTRY & ENDODONTICS	100	100
5	ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS	100	100
6	PEDIATRICS AND PREVENTIVE DENTISTRY	100	100
7	PROSTHODONTICS AND CROWN AND BRIDGE	100	100
8	PUBLIC HEALTH DENTISTRY	100	100

Theory & Practical Mark Distribution for all Subjects :

THEORY - 100 MARK		PRACTICALS / CLINICALS - 100 MARK	
UNIVERSITY WRITTEN EXAM	70	UNIVERSITY EXAM	90
VIVA VOCE	20	INTERNAL ASSESSMENT	10
INTERNAL ASSESSMENT	10	**TOTAL -**	**100**
TOTAL -	**100**		

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University Exam Theory Question Pattern – Revised regulations

Maximum : 100 Marks

Time : Three Hours

SECTION-A (35 Marks)

1. Elaborate answer - 1 X 10 = 10 Marks
2. Short answer - 3 X 5 = 15 Marks
3. MC questions - 10 x 1 = 10 Marks

Total - 35 Marks

SECTION-B (35 Marks)

1. Elaborate answer - 1 X 10 = 10 Marks
2. Short answer - 3 X 5 = 15 Marks
3. MC questions - 10 x 1 = 10 Marks

Total - 35 Marks

Viva Voce - 20 Marks

Internal Marks - 10 Marks

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UNIVERSITY PRACTICAL EXAMINATION PATTERN

I. ORAL MEDICINE AND RADIOLOGY

Clinical Case Presentation - 45 Marks

Internal Radiograph - 45 Marks

Internal Assessment - 10 Marks

Total- 100 Marks

II. DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY

Practical Examination Total - 100 Marks

Case History - 30 Marks

Local Anaesthesia - 30 Marks

Exodontia - 30 Marks

Internal Exam - 10 Marks

Total - 100 Marks

III. PERIODONTOLOGY

Clinical. Case Sheet - 25 Marks

Spotters - 25 Marks

Oral prophylaxis - 20 Marks

Clinical case discussion - 20 Marks

Internal marks - 10 Marks

Total - 100 Marks

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IV. CONSERVATIVE DENTISTRY & ENDODONTICS

EXTERNAL (70 MARKS)				INTERNAL (30 MARKS)			
Practical (50 Marks)			Viva (20 Marks)	Theory 20 Marks		Practical 10 Marks	
Cavity Preparation	Base Matrix wedge	Restoration	Viva	(3) Internal Assessment Average	Library Assignment	Internal Practical Examination	Clinical Record and W0rk completion
25 Marks	15 Marks	10 Marks	20 Marks	15 Marks (15+15)	5 Marks	5 Marks	5 Marks

V. ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

Practical Examination **Total - 100 Marks**

Case History - 40 Marks
Wire Bending 1 - 15 Marks
Wire Bending 2 - 15 Marks
Impression Making - 10 Marks
Spotters - 10 Marks
Internal Assessment - 10 Marks
Total - 100 Marks

VI. PEDIATRIC & PREVENTIVE DENTISTRY

Practical Examination **Total - 100Marks**

Spotters - 20 Marks
Case History Taking and Treatment - 50 Marks
Chair Side Viva - 20 Marks
Internal Assessment - 10 Marks
Total - 100 Marks

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VII. PROSTHODONTICS, CROWN & BRIDGE

Practical Examination **Total - 100 Marks**

Case History	- 10 Marks
Cast and Special Tray	- 5 Marks
Stage Viva	- 5 Marks
Border Molding	- 15 Marks
Secondary Impression	- 15 Marks
Anterior Tooth Prepartion	- 40 Marks
Internal Assessment	- 10 Marks
Total	**-100 Marks**

VIII. PUBLIC HEALTH DENTISTRY

Practical Examination	**Total - 100 Marks**
Case Sheet	-30 Marks
Indices	-20 Marks
Preventive Procedure	-10 Marks
Record Book	-10 Marks
Chair Side Viva	-20 Marks
Internal Assessment	. 10 Marks
Total-	**- 100 Marks**

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SYLLABUS OF STUDY

The syllabus given below is a guideline and is not intended to restrict the student from learning relevant topics not mentioned herein and is not intended to restrict the examiner in assessing the extent of knowledge of the student in the subject)

1. HUMAN ANATOMY, EMBRYOLOGY, HISTOLOGY & MEDICAL GENETICS

a) GOAL

The students should gain the knowledge and insight into, the functional anatomy of the normal human head and neck, functional histology and an appreciation of the genetic basis of inheritance and disease, and the embryological development of clinically important structures. So that relevant anatomical & scientific foundations are laid down for the clinical years of the BDS course.

b) OBJECTIVES:

i. Knowledge & understanding:

At the end of the 1st year BDS course in Anatomical Sciences the undergraduate student is expected to:

(1) Know the normal disposition of the structures in the body while clinically examining a patient and while conducting clinical procedures.

(2) Know the anatomical basis of disease and injury.

(3) Know the microscopic structure of the various tissues, a pre-requisite for understanding of the disease processes.

(4) Know the nervous system to locate the site of lesions according to the sensory and or motor deficits encountered.

(5) Have an idea about the basis of abnormal development, critical stages of development, effects of teratogens, genetic mutations and environmental hazards.

(6) Know the sectional anatomy of head neck and brain to read the features in radiographs and pictures taken by modern imaging techniques.

(7) Know the anatomy of cardio-pulmonary resuscitation.

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i. SKILLS

1) To locate various structures of the body and to mark the topography of the living anatomy.
2) To identify various tissues under microscope.
3) To identify the features in radiographs and modern imaging techniques.
4) To detect various congenital abnormalities.

c) INTEGRATION

By emphasizing on the relevant information and avoiding unwanted details, the anatomy taught integrally with other basic sciences & clinical subjects not only keeps the curiosity alive in the learner but also lays down the scientific foundation for making a better doctor, a benefit to the society. This insight is gained in a variety of ways:

i. Lectures & small group teaching
ii. Demonstrations
iii. Dissection of the human cadaver
iv. Study of dissected specimens
v. Osteology
vi. Surface anatomy on living individual
vii. Study of radiographs & other modern imaging techniques.
viii. Study of Histology slides.
ix. Study of embryology models
x. Audio-visual aids

Throughout the course, particular emphasis is placed on the functional correlation, clinical application & on integration with teaching in other bio dental disciplines

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D) AN OUTLINE OF THE COURSE CONTENT:

General anatomy: Introduction of anatomical terms and brief outline of various systems of the body.

i. Regional anatomy of head & neck with Osteology of bones of head & neck, with emphasis on topics of dental importance.

ii. General disposition of thoracic, abdominal & pelvic organs.

iii. The regional anatomy of the sites of intramuscular & intra vascular injections, & lumbar puncture.

iv. General embryology & systemic embryology with respect to development of head & neck.

v. Histology of basic tissues and of the organs of gastrointestinal, respiratory, Endocrine, excretory systems & gonads.

vi. Medical genetics

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THEORY

S.NO	TOPIC	HOURS
1.	**GENERAL ANATOMY**	7
	Anatomical terms Skin, superficial fascia & deep fascia Cardiovascular system, portal system, collateral circulation and arteries Lymphatic system Osteology – including ossification & growth of bones Myology – including types of muscle tissue & innervations Syndesmology – including classification of joints Nervous system	
2.	**HEAD & NECK**	41
	INTRODUCTION AND OSTEOLOGY Skull - normas, individual skull bones, cervical vertebrae **SCALP, TEMPLE AND FACE** Scalp, the facial muscles, sensory nerve supply, arteries of the face, facial artery, lymphatic drainage, lacrimal apparatus **SIDE OF THE NECK** Deep cervical fascia, posterior triangle of neck, sternocleidomastoid muscle. **ANTERIOR TRIANGLE OF THE NECK** Structures in the anterior median region of the neck, submental and digastric triangle, carotid triangle, muscular triangle **DEEP STRUCTURES OF THE NECK** Carotid arteries, Internal jugular vein, sympathetic trunk, Ansa cervicalis, Thyroid gland, subclavian artery **PAROTID REGION** Parotid gland, parotid duct/Stenson's duct **TEMPORAL AND INFRATEMPORAL REGION** Boundaries of infratemporal fossa, muscles of mastication, maxillary artery, mandibular nerve, otic ganglion, temporomandibular joint **SUBMANDIBULAR REGION** Submandibular salivary gland, hyoglossus muscle, submandibular ganglion	

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	PREVERTEBRAL AND PARAVERTEBRAL REGIONS Vertebral artery, trachea, oeophagus **BACK OF THE NECK** Suboccipital triangle **CRANIAL CAVITY** Dural venous sinuses Hypophysis cerebri (pituitary gland), trigeminal ganglion **CONTENTS OF THE ORBIT** Extraocular muscles, Ciliary ganglion **MOUTH AND PHARYNX** Tongue Hard and soft palates, Waldeyer's lymphatic ring, structure of pharynx **NOSE AND PARANASAL AIR SINUSES** Nasal septum, lateral wall of nose, paranasal sinuses, pterygopalatine fossa, maxillary nerve, pterygopalatine Ganglion **LARYNX** **EAR** Middle ear **EYEBALL** Cornea, retina	
3.	**NEURO ANATOMY**	12
	CRANIAL NERVES Third cranial nerve / Oculomotor nerve, fourth cranial nerve/ Trochlear nerve, sixth cranial nerve/Abducent nerve, fifth cranial nerve/ Trigeminal nerve, seventh cranial nerve/Facial nerve, ninth cranial nerve/Glossopharyngeal nerve, twelfth cranial nerve/Hypoglossal nerve **BRAINSTEM** Medulla oblongata, pons, midbrain, fourth ventricle **CEREBRUM** Cerebral hemisphere: external features, lobes of cerebral hemisphere, functions of cerebral cortex, white matter of cerebrum, internal capsule, lateral ventricle; thalamus, hypothalamus **BLOOD SUPPLY OF BRAIN**	

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4.	**EMBRYOLOGY**	15
	GENERAL EMBRYOLOGY Spermatogenesis Oogenesis Fertilization Cleavage, blastocyst formation, implantation Germ disc Primitive streak and Intraembryonic mesoderm Notochord, neural tube formation Connecting stalk, Allantoic diverticulum, folding of embryo Placenta **SYSTEMIC EMBRYOLOGY** Pharyngeal apparatus Development of face Development of thyroid gland & palate Development of tongue Development of tooth	
5.	**HISTOLOGY**	21
	GENERAL HISTOLOGY Simple epithelium & microscope Stratified epithelium Connective tissue Muscles Cartilage Bone Nervous tissue Blood vessels Lymphatic tissue Skin: Thick & Thin **SYSTEMIC HISTOLOGY** Respiratory System: Lung & trachea Salivary glands: Serous, mucous, mixed Tongue & Tooth Oesophagus, Stomach (Pylorus) Small intestine(Duodenum, Jejunum, Ileum) Large intestine & Appendix Liver Pancreas Endocrine glands: Thyroid, parathyroid, pituitary, adrenal	

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	Special sensory organs: Cornea & Retina CNS: Cerebrum, Cerebellum & spinal cord Kidney Uterus, Ovary & testis	
6.	**GENETICS**	4
	Chromosomes & Karyotyping Chromosomal Abnormalities & Barr Body Modes of inheritance Gene structure	

Total - 100 HOURS

PRACTICALS

S.NO	TOPIC	HOURS
1.	**GENERAL ANATOMY**	7
2.	**HEAD & NECK**	83
3.	**NEURO ANATOMY**	24
4.	**EMBRYOLOGY**	4
5.	**HISTOLOGY**	42
6.	**THORAX & ABDOMINAL ORGANS** 1. Heart 2. Lungs 3. Stomach 4. Liver 5. Small intestine 6. Pancreas 7. Spleen 8. Kidney, ureter, Urinary bladder 9. Uterus 10. Testis **SURFACE ANATOMY** Intramuscular injections: Demonstration on a dissected specimen and on a living person of the following sites of injection: 1. Deltoid muscle and its relation to the axillary nerve 2. Gluteal region and the relation of the sciatic nerve 3. Vastus lateralis muscle Intravenous injections & venesection: Demonstration of the following veins in the dissected specimen and on a living person: 1.Median cubital vein 2. Cephalic vein 3. Basilic vein 4. Long saphenous vein Arterial pulsation of the following arteries on a living person 1. Superficial temporal 2. Facial 3. Carotid 4. Axillary 5. Brachial 6.Radial 7. Ulnar 8. Femoral 9. Popliteal 10. Dorsalis pedis **LUMBAR PUNCTURE** Demonstration on a dissected specimen of the spinal cord, cauda equina & epidural space and the inter vertebral space between L4 & L5	15

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	RADIOLOGICAL ANATOMY Plain x- ray anterior posterior view & lateral view of skull	

Total - 175 HOURS

A work record shall be maintained by each student detailing each of the practical one and duly signed by the teacher in charge and the record should be submitted at the time of university practical examination after due.

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3.

HUMAN PHYSIOLOGY

a) GOAL

The broad goal of the teaching undergraduate students in Physiology aims at providing the student comprehensive knowledge of the normal functions of the organ systems of the body to facilitate an understanding of the physiological basis of health and disease.

b) OBJECTIVES

i. KNOWLEDGE

At the end of the course, the student will be able to:

(1) Explain the normal functioning of all the organ systems and their interactions for well-coordinated total body function.

(2) Assess the relative contribution of each organ system towards the maintenance of the milieu interior.

(3) List the physiological principles underlying the pathogenesis and treatment of disease.

ii. SKILLS

At the end of the course, the student shall be able to:

(1) Conduct experiments designed for the study of physiological phenomena.

(2) Interpret experimental and investigative data

(3) Distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.

iii. INTEGRATION

At the end of the integrated teaching the student shall acquire an integrated knowledge of organ structure and function and its regulatory mechanisms.

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THEORY

S.NO	TOPIC	HOURS
1.	**GENERAL PHYSIOLOGY**	6
	Homeostasis: Basic concept, feedback mechanisms Structure of cell membrane, transport across cell membrane Membrane potentials	
2.	**BLOOD** Blood volume, composition of blood and plasma Red blood cells-morphology, count and variations Erythropoiesis life span and fate of RBC Anemia Blood groups, ABO and Rh-System transfusion Immunity Lymphatic system formation circulation and functions of spleen Blood platelets Count variations and functions Coagulation of blood Extrinsic and intrinsic pathway of coagulation Bleeding and clotting disorders Coagulation factors Anticoagulants	14
3.	**MUSCLE AND NERVE**	8
	Classification of nerves. Structure of skeletal muscle - Molecular mechanism of muscle contraction. Neuromuscular transmission. Properties of skeletal muscle. Structure and properties of cardiac muscle & smooth muscle.	
4.	**DIGESTIVE SYSTEM**	12
	Introduction to digestion: General structure of G.I. tract, Innervation. Salivary glands: Structure of salivary glands, composition, regulation of secretion & functions of saliva. Stomach: Composition and functions of gastric juice, mechanism and regulation of gastric secretion. Exocrine Pancreas – Structure, composition of pancreatic juice, functions of each component, regulation of pancreatic secretion.	

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	Liver: Structure, composition of bile, functions of bile, regulation of secretion. Gall bladder: Structure, functions. Small intestine – Composition, functions & regulation of secretion of intestinal juice. Large intestine – Functions. Motor functions of GIT: Mastication, deglutition, gastric filling & emptying, movements of small and large intestine, defecation.	
5.	**EXCRETORY SYSTEM**	10
	Structure & functions of kidney, functional unit of kidney & functions of different parts. Juxta glomerular apparatus, renal blood flow. Formation of Urine: Glomerular filtration rate - definition, determination, normal values, factors influencing G.F.R. Tubular reabsorption – Reabsorption of sodium, glucose, water & other substances. Tubular secretion – secretion of urea, hydrogen and other substances. Mechanism of concentration & dilution of urine. Role of kidney in the regulation of pH of the blood. Micturition: Anatomy & innervations of Urinary bladder, mechanism of mituration & abnormalities.	
6.	**BODY TEMPERATURE & FUNCTIONS OF SKIN**	1
7.	**ENDOCRINOLOGY**	9
	General endocrinology – Enumeration of endocrine glands & hormones – General functions of endocrine system, chemistry, mechanism of secretion, transport, metabolism, regulation of secretion of hormones. Hormones of anterior pituitary & their actions, hypothamic regulation of anterior pituitary function. Disorders of secretion of anterior pituitary hormones. Posterior pituitary: Functions, regulation & disorders of secretion. Thyroid: Histology, synthesis, secretion & transport of hormones, actions of hormones, regulation of secretion & disorders, Thyroid function tests. Adrenal cortex & Medulla – synthesis, secretion, action, metabolism, regulation of secretion of hormones & disorders. Other hormones – Angiotensin, A.N.F.	

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8.	**REPRODUCTION**	6
	Sex differentiation, Physiological anatomy of male and female sex organs Female reproductive system: Menstrual cycle, functions of ovary, actions of oestrogen & Progesterone, control of secretion of ovarian hormones, tests for ovulation, fertilization, implantation, maternal changes during pregnancy, pregnancy tests & parturition. Lactation, composition of milk, factors controlling lactation, milk ejection, reflex, Male reproductive system: spermatogenesis, semen and contraception.	
9.	**CARDIO VASCULAR SYSTEM**	18
	Functional anatomy and innervation of heart Properties of cardiac muscle Origin & propagation of cardiac impulse and heart block. Electrocardiogram – Normal electrocardiogram. Two changes in ECG in myocardial infarction. Cardiac cycle – Phases, Pressure changes in atria, ventricles & aorta. Volume changes in ventricles. Jugular venous pulse, arterial pulse. Heart sounds: Mention of murmurs. Heart rate: Normal value, variation & regulation. Cardiac output: Definition, normal values, one method of determination, variation, factors affecting heart rate and stroke volume. Arterial blood pressure: Definition, normal values & variations, determinants, regulation & measurement of blood pressure. Coronary circulation. Cardio vascular homeostasis – Exercise & posture. Shock	
10.	**RESPIRATORY SYSTEM**	13
	Physiology of Respiration: External & internal respiration. Functional anatomy of respiratory passage & lungs. Respiratory movements: Muscles of respiration, Mechanism of inflation & deflation of lungs. Intra pleural & intra pulmonary pressures & their changes during the phases of respiration. Mechanics of breathing – surfactant, compliance & work of breathing. Spirometry: Lung volumes & capacities definition, normal values, significance, factors affecting vital capacity, variations, in vital capacity, FEV & its variations.	

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	Pulmonary ventilation – alveolar ventilation & dead space – ventilation. Composition of inspired air, alveolar air and expired air. Exchange of gases: Diffusing capacity, factors affecting it. Transport of Oxygen & carbon dioxide in the blood. Regulation of respiration – neural & chemical. Hypoxia, cyanosis, dyspnoea, periodic breathing. Artificial respiration, pulmonary function tests.	
11.	**CENTRAL NERVOUS SYSTEM**	18
	Organization of central nervous system Neuronal organization at spinal cord level Synapse receptors, reflexes, sensations and tracts Physiology of pain Functions of cerebellum, Basal ganglia thalamus, hypothalamus and cerebral cortex. Formation and functions of CSF Autonomic nervous system EEG Sleep Higher functions	
12.	**SPECIAL SENSES**	7
	Fundamental knowledge of vision, hearing, taste and smell.	

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PRACTICALS

Total - 120 HOURS

I.	The following list of practical is minimum and essential. All the practical have been categorized as procedures and demonstrations. The procedures are to be performed by the students during practical classes to acquire skills. All the procedures are to be included in the University Practical Examination. Those categorized as demonstrations are to be shown to the students during practical classes. However, these demonstrations would not be included in the University Examinations but question based on this would be given in the form of charts, graphs and calculations for interpretation by the students.	
II.	**PROCEDURES**	
	Enumeration of Red Blood Cells Enumeration of White Blood Cells Differential leucocyte counts Determination of Haemoglobin Determination of blood group Determination of bleeding time and clotting time Examination of pulse Recording of blood pressure.	

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III.	DEMONSTRATION	
	Determination of packed cell volume and erythrocyte sedimentation rate Determination of specific gravity of blood Determination of erythrocyte fragility Determination of vital capacity and timed vital capacity Skeletal muscle experiments. Study of laboratory appliances in experimental physiology. Chart discussion - Simple muscle curve, effects of two successive stimuli, effects of increasing strength of stimuli, effects of temperature, genesis of fatigue and tetanus. Effect of after load and free load on muscle concentration, calculation of work done. Electrocardiography: Demonstration of recording of normal Electro cardiogram Demonstration of Clinical examination of cardiovascular and respiratory system.	

Total - 60 HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

BIOCHEMISTRY

a) AIMS AND SCOPE

The major aim is to provide a sound but crisp knowledge on the biochemical basis of the life processes relevant to the human system and to dental/medical practice. The contents should be organized to build on the already existing information available to the students in the pre-university stage and reorienting. A mere rehash should be avoided.

The chemistry portion should strive towards providing information on the functional groups, hydrophobic and hydrophilic moieties and weak valence forces that organise macromolecules. Details on structure need not be emphasised.

Discussion on metabolic processes should put emphasis on the overall change, interdependence and molecular turnover. While details of the steps may be given, the student should not be expected

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to memorise them. An introduction to biochemical genetics and molecular biology is a must but details should be avoided. The exposure to antivitamins, antimetabolites and enzyme inhibitors at this stage, will provide a basis for the future study of medical subjects. An overview of metabolic regulation is to be taught by covering hormonal action, second messengers and regulation of enzyme activities. Medical aspects of biochemistry should avoid describing innumerable functional tests, most of which are not in vogue. Cataloguing genetic disorders under each head of metabolism is unnecessary. A few examples which correlate genotype change to functional changes should be adequate.

At the end of the course the student would be able to acquire a useful core of information, which can be retained for a long time.

THEORY

S. NO	TOPIC	HOURS
1.	**CELL STRUCTURE & FUNCTION** Membrane & Membrane associated processes	**2**
2.	**CHEMISTRY OF BIOGENIC MOLECULES** 1. **CARBOHYDRATES:** Classification Monosaccharides, Isomerism Sugar derivatives Disaccharides Polysaccharides Glycosaminoglycans **2. LIPIDS:** Classification Biological importance Fats, fatty acids Compound lipids – phospholipids Cholesterol & its derivatives	2 2

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	3. **PROTEINS:** Classification of amino acids & proteins Peptides Properties – Buffer, Denaturation Protein structure Plasma proteins – Classification & Separation – Functions of albumin Separation techniques – Electrophoresis, chromatography Immunoglobulins – Types, structure & function 4**. NUCLEIC ACIDS:** Bases, nucleosides, nucleotides DNA, RNA – Structure – outline	5 2
3.	**ENZYMES & METABOLIC REGULATION:** **1. ENZYMES**: Definition, classification Specificity & active site Coenzymes / cofactors Factors affecting enzyme action Mechanism of enzyme action Enzyme inhibition Enzyme regulation Isoenzymes & clinically important enzymes	4
4.	**VITAMINS:** Fat soluble vitamins (A,D,E & K) Water soluble vitamins (B complex, C)	2 5
5.	**MINERALS:** Classification & daily requirement Calcium & phosphorus Iron Iodine Fluorine Trace elements	4

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6.	**ENERGY & NUTRITION:** BMR Dietary fiber Nitrogen balance Protein quality & requirement Protein calorie malnutrition Balanced diet	1
7.	**DIGESTION & METABOLISM OF MACRONUTRIENTS:** 1**. CARBOHYDRATE:** Digestion & absorption Glycolysis Pyruvate oxidation, TCA cycle Glycogen metabolism Gluconeogenesis Regulation of blood glucose Diabetes mellitus & related disorders Evaluation of glycemic status **2. LIPIDS:** Digestion & absorption Beta oxidation Ketone body – formation & utilization Fatty acid synthesis – outline Lipogenesis & lipolysis Plasma lipoproteins – formation & function Outline of cholesterol synthesis & breakdown Lipoproteinemias & atherosclerosis 3. **ELECTRON TRANSPORT CHAIN & OXIDATIVE PHOSPHORYLATION** 4. **PROTEINS:** Digestion & absorption Ammonia metabolism Urea formation Transamination & transmethylation One carbon metabolism Inborn errors of metabolism & special functions of - Glycine - Phenylalanine	7 6 1 6

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	- Tyrosine - Tryptophan - Histidine - Sulphur containing aminoacids	
8.	**DETOXIFICATION** – typical reactions Oxygen toxicity – Free radicals & antioxidants	2
9.	**BLOOD PROTEINS & STRUCTURAL COMPONENTS** **1. HEMOGLOBIN:** Structure & function Abnormal hemoglobins Heme synthesis, porphyrias Degradation / Jaundice **2. CONNECTIVE TISSUE:** Collagen & elastin Bone structure Muscle proteins	4 1
10.	**ACID BASE REGULATION, ELECTROLYTE BALANCE & RELATED DISORDERS**	3
11.	**HORMONES:** Overview Second messengers – Cyclic AMP – Calcium, Ionositol triphosphate Mechanism of action of hormones – steroids, adrenal hormones, glucagon, insulin, catecholamines	2
12.	**FUNCTION TESTS:** Liver function tests Renal function tests Thyroid function tests Gastric function tests	4

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13.	**BIOCHEMICAL GENETICS & PROTEIN SYNTHESIS:** Formation & degradation of nucleotides – Gout Introduction to replication & transcription Types & functions of RNA Genetic code & mutation Outline of translation Antimetabolites & antibiotics – Inhibitors of replication, transcription & translation	3
14.	**INTRODUCTION OF CANCER, VIRUSES, ONCOGENES & AIDS:**	**2**

Total -70 HOURS

PRACTICALS

S. NO	TOPIC	HOURS
1.	**QUALITATIVE ANALYSIS** Carbohydrates - monosaccharides - disaccharides -polysaccharides	
2.	Colour reactions of proteins & aminoacids	
3.	Identifications of non-protein nitrogen substances	
4.	Normal and abnormal Constituents of urine	
5.	Quantitative Estimations-Glucose-Urea-Creatinine-Serumproteins.	
6.	**DEMONSTRATIONS** Hydrolysis of starch	15
7.	CLINICAL DATA EVALUATION Profiles of GTT Lipid profiles	15

Total - 60 HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

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4. DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

a) INTRODUCTION:

The course includes instructions in the subject of Dental Morphology, Oral Embryology, Oral Histology and Oral Physiology. A composite of basic Dental Sciences & their clinical applications.

b) SKILLS

The student should acquire basic skills in:

i. Carving of crowns of permanent teeth in wax.

ii. Microscopic study of Oral tissues.

iii. Identification of Deciduous & Permanent teeth

iv. Age estimation by patterns of teeth eruption from plaster models of different age groups. (Primary mixed and permanent dentition)

c) OBJECTIVES

After a course on Oral Biology,

i. The student is expected to appreciate the normal development, morphology, structure & functions of oral tissues & its clinical consideration

ii. The student should understand the histological basis of various dental tissues and its physiologic ageing process.

iii. The students must able to identify the deciduous & permanent tooth.

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THEORY

S.NO	TOPIC	HOURS
	TOOTH MORPHOLOGY	
1.	Introduction Dental Anatomy Function of teeth. Nomenclature. Tooth numbering systems (Different system) (Dental formula).	5
2.	**CHRONOLOGY OF DECIDUOUS AND PERMANENT TEETH.** (First evidence of calcification, crown completion, eruption and root completion) Deciduous teeth – a) Nomenclature.	
3.	**MORPHOLOGY OF PERMANENT TEETH.** Chronology, measurements, description of individual surface and variations of each tooth. Morphological differences between incisors, premolars and molars of same arch. Morphological differences between maxillary and mandibular. Incisors, canines, premolars and molars of the opposite arch.	20
4.	**OCCLUSION:** a. Development of occlusion. b. Dental arch form. c. Compensating curves of dental arches. d. Occlusal contact and intercusp relations of all the teeth of one arch with those in the opposing arch in centric occlusion. e. Occlusal contact and Intercusp relations of all the teeth during the various functional mandibular movements.	5

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5.	**TEMPERO MANDIBULAR JOINT (T.M.J.):** - Gross Anatomy and articulation. - Muscles (Muscles of mastication). - Mandibular position and movements. - Histology. Clinical considerations with special emphasis on Myofacial Pain Dysfunction Syndrome (MPDS) - (Desirableto Know).	2

	ORAL PHYSIOLOGY	
1. 2. 3. 4. 5. 6.	Saliva Mastication & Deglutition Calcium, Phosphorous & Fluoride Metabolism Theories of Mineralisation Physiology of Speech and Taste Theories Of Eruption And Shedding. (Physiological tooth movement) Pain	8
	ORAL EMBRYOLOGY AND ORAL ANATOMY	
1. 2. 3. 4.	Development and growth of face and jaws. Development of tooth. Cranial nerves with more emphasis on V.VII and IX. Blood supply, nerve supply and lymphatic drainage of teeth and surrounding structures	14

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	ORAL HISTOLOGY	
1.	**CELL - STRUCTURE AND FUNCTION**	2
2.	**MAXILLARY SINUS** -Structure, Variations, Histology Function and Clinical Considerations	2
3.	**SALIVARY GLANDS:** - Classification, Structure, Function & Histology. - Clinical Considerations and Age Changes.	5
4.	**ORAL MUCOUS MEMBRANE:** - Definitions, General Consideration.	
5.	**ENAMEL:** - Physical Characteristics, Chemical Properties Structure. - Development - Life Cycle of Ameloblasts, - Amelogenesis and Mineralisation. - Clinical Considerations and Age Changes.	8
6.	**DENTIN:** - Physical Characteristics, Chemical Properties, Structure. - Types of Dentin. Dentin Innervation and Hypersensitivity. - Development - Dentinogenesis and Mineralisation. - Clinical Considerations and Age Changes.	7

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8.	**CEMENIUM:** - Physical Characteristics, Chemical Properties, Structure. - Cementogenesis. Clinical Consideration and Age Changes.	2
9.	**PERIODONTAL LIGAMENT:** - Cells and Fibers - Functions - Development - Clinical Considerations and Age Changes	4
10.	**ALVEOLAR BONE:** - Physical Characteristics, Chemical Properties Structure. - Structure - Development. - Internal Reconstruction. - Clinical Consideration.	3

Total – 105 HOURS

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PRACTICALS

S. NO	TOPIC	HOURS
	DEMONSTRATIONS	
1.	Preparation of ground section of the teeth	
2.	Preparation of decalcified section of hard tissues	
3.	Preparation of section of soft tissues	5
4.	DENTAL ANATOMY / TOOTH MORPHOLOGY Carving on wax blocks - Individual tooth – (Upper and lower arch) - Central Incisors - Lateral incisors - Canines - Premolars - Ist Molar - 2nd Molar Record : - Drawings of individual Permanent teeth - Chronology of permanent teeth - Definitions - Teeth identification points - Age estimation points - Identification of Individual Teeth - Identification of Deciduous, permanent and mixed dentition using study Models	120
	SALIVARY GLANDS: - Mucous gland - Serous gland. - Mixed gland.	30

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5.	**ORAL MUCOUS MEMBRANE**: - Parakeratinised epithelium - Orthokeratinised epithelium - Non keratinized epithelium - Dentogingival junction	15
6.	**HISTOLOGY** List of Histology slides: **DEVELOPMENT OF TOOTH** : - Bud stage - Cap stage - Early bell stage - Late Bell stage **ENAMEL :** - Enamel rod. - Hunter-Schreger Bands - Tufts, Lamellae, Spindles. - Incremental lines of Retzius. - Gnarled Enamel. **DENTIN** : - Dentino – Enamel junction. - Dentinal Tubules. - Tomes granular layer. - Interglobular Dentine. - Dead Tracts **CEMENTUM:** - Cellular cementum.	80

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	- Acellular cementum - Cemento enamel junction PULP Zones of Pulp - Pulp stones PERIODONTAL LIGAMENT: Principal fibers of Periodontal ligament - Apical, - Horizontal, - Oblique, - Alveolar crest, - Interradicular, - Transeptal ALVEOLAR BONE: - Ground Section - Decalcified Section	

Total – 250 HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

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5. ENVIRONMENTAL STUDIES

AIMS :

To create awareness about the importance of Environment and inculcate the method of Environmental conversation.

OBJECTIVES:

- **Awareness:** About our environment and its allied problems.
- **Knowledge**: Acquire basic understanding and experience about our environment and associated problems.
- **Attitude:** Concern for the environment and active participation in its improvement and protection.
- **Skill**: Identifying and solving environmental problems.

Participation**: Providing opportunity to be involved in resolving the environmental problems**

S.NO	TOPIC	HOURS
1	Unit 1 : The Multi - Disciplinary Nature of Environmental Studies (2 Lectures) Definition, Scope and Importance, Need for Public Awareness.	2
2	Unit: 2: Natural Resources Renewable and Non- Renewable Resources: Natural Resources and Associated Problems.	8
	(i) Forest Resources: Use and Over Exploitation, Deforestation, Case Studies. Timber Extraction, Mining, Dams and Their Effects on Forests and Tribal People	
	(ii)Water Resources: Use and Over – Utilization of Surface and Ground Water, Floods, Drought, Conflicts Over Water, Dams- Benefits And Problems.	
	(iii)Mineral Resources: Use And Exploitation, Environmental Effects Of Extracting And Using Mineral Resources, Case Studies.	
	(iv)Food Resources: World Food Problems, Changes Caused By Agriculture and Over – Grazing, Effects of Modern Agriculture, Fertilizers – Pesticide Problems, Water Logging, Salinity, Case Studies.	
	(v)Energy Resources: Growing Energy Needs, Renewable and Non-	

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	Renewable Energy Sources, Use of Alternate Energy Sources, Case Studies. (vi) Land Resources: Land As A Resource, Land Degradation, Man Induced Landslides, Soil Erosion And Desertification.	
3	Unit3:Ecosystem Concept of an ecosystem, structure and function of an ecosystem, producers, consumers and decomposers, energy flow in the ecosystem, ecological succession. Food chain, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the following eco-systems: forest ecosystem, grass land ecosystem, desert ecosystem, aquatic ecosystem (ponds, streams, lakes, rivers, oceans, estuaries).	6
4	Unit 4: Bio- diversity and its conservation. Introduction; definition, genetic, species and ecosystem diversity; bio geographical classification of India , value of biodiversity; consumptive use , productive use, social, ethical, aesthetic and option values; biodiversity at global, national and local levels; India as a megadiversity nation; hot spots of biodiversity; threats to biodiversity; habitat loss, poaching of wildlife, man – wildlife conflicts; endangered and endemic species of India ; conservation of biodiversity; In situ and Ex- situ conservation of biodiversity.	8
5	Unit 5: Environmental pollution Definition, causes, effects and control measures of: (i) air pollution, (ii) water pollution, (iii) soil pollution, (iv) Marine pollution, (v) noise pollution, (vi) thermal pollution, (vii) nuclear pollution. Solid waste management: causes, effects and control measures of urban and industrial wastes; role of individual in prevention of pollution; pollution case studies; disaster management; floods, earthquake, cyclone and landslides.	8

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6	Unit 6: Social issues and the environment From unsustainable to sustainable development; urban problems related to energy; water conservation, rain water harvesting, watershed management; Resettlement and rehabilitation of people, its problems and concerns, case studies; environmental ethics : issues and possible solutions; climate changes, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, case studies. Wasteland reclamation, consumerism and waste products. Environment protection acts; air (prevention and control of pollution) act, water (prevention and control of pollution) act, wildlife protection act, forest conservation act; issues involved in enforcement of environmental legislation; public awareness.	7
7	Unit 7: Human Population and Environment Population growth, variation among nations; population explosion, family welfare programme ; environment and human health; human rights; value education; HIV/AIDS, women and child welfare; role of information technology in environment and human health; case studies.	6
8	Unit 8: Field Work Visit to a local area to document environmental assets: river /forest / grassland / hill mountain. Visit to a local polluted site: urban/rural/industrial /agriculture. Study of common plants, insects and birds. Study of simple ecosystem: pond, river, hill slope etc.	5

Total – 60 HOURS

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6. GENERAL PATHOLOGY

a) AIM:

At the end of the course the student should be competent to: Apply the scientific study of disease processes, which result in morphological and functional alterations in cells, tissues and organs to the study of pathology and the practice of dentistry.

b) OBJECTIVES:

Enabling the student

i. To demonstrate and analyze pathological changes macroscopically explain their observations in terms of disease processes.

ii. To integrate knowledge from the basic sciences, clinical medicine and dentistry in the study of Pathology.

iii. To demonstrate understanding of the capabilities and limitations of morphological Pathology in its contribution to medicine, dentistry and biological research.

iv. To demonstrate ability to consult resource materials outside lectures, laboratory and tutorial classes.

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THEORY

S. NO	TOPIC	HOURS
1	**INTRODUCTION TO PATHOLOGY** - Terminologies - Cells in health - Normal cell structure The cellular functions	1
2	**CELL INJURY** - Types - Congenital Acquired Main acquired causes of cell injury (Hypoxic, chemical, physical, immunological) Degenerations - Amyloidosis - Fatty change - Cloudy swelling - Mucoid degeneration - Hyaline change Cell death and Necrosis Apoptosis Definition Features Causes Types of Necrosis	3
3	**INFLAMMATION AND TISSUE RESPONSE TO INFLAMMATION** - Definition - Causes - Types and features Acute inflammation - The Vascular response - The Cellular response	2

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	- Chemical mediators - The inflammatory cells - Fate of inflammatory cells Chronic inflammation - Granulomatous inflammation	
4	**WOUND HEALING** Regeneration and Repair - Healing by primaryintention - Healing by secondaryintention - Fracture healing	2
5	Immunological mechanisms in disease a) Humoral and cellular immunity b) Hypersensitivity c) Types of Autoimmunity d) Principles of Autoimmunity –brief outline of-SLE,	

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6	**INFECTIONS & INFESTATIONS** a)Syphilis: - Epidemiology - Types and stages of syphilis - Pathological features - Diagnostic criteria - Oral lesions b)Typhoid: - Epidemiology - Pathogenesis - Pathological features - Diagnostic criteria c)Tuberculosis: - Epidemiology - Pathogenesis, (Formation of tubercle), - Pathological features of Primary and secondary TB - Complications of TB and Fate d)Hepatitis - Epidemiology - Pathogenesis - Pathological features - Diagnostic criteria e)Actinomycosis f)Candidiasis (detail) g)Mucormycosis h)Leprosy i) Pyogenic infections j) AIDS	5
7	Brief introduction to growth & differentiation Adaptive disorders of growth Atrophy, Hypertrophy, Hyperplasia, Metaplasia and Dysplasia	1

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8	General Aspects of Neoplasia - Definitions and Terminology - Classification - Differences between benign and malignant neoplasms - The neoplastic cell - Metastasis - Aetiology and pathogenesis of neoplasia - Carcinogenesis - Tumour biology - Oncogene and anti- oncogenes - Diagnosis Precancerous lesions Common specific tumours- - Sqamous cell carcinoma - Papilloma - Basal cell Carcinoma - Adenoma & Adenocarcinoma - Fibroma & Fibrosarcoma - Lipoma and liposarcoma	4
9	Nutritional disorders - Starvation - Obesity - Malnutrition, Pathogenesis of deficiency diseases with special reference to disorders of vitamins & minerals	2

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10	a)Diabetes Mellitus - Classification and Pathogenesis - Pathology in different organs b)Hypertension - Classification - Pathophysiology Effects in various organs	2
11	Thrombosis - Definition - Pathophysiology - Formation - Complications - Fate of a thrombus Embolism - Definition - Types - Effects	2
12	Oedema - Pathogenesis	1
13	Ischemia and Infarction - Definition - Aetiology - Types - Infarction in different organs	2.5
14	Haemorrhage and shock	1.5

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15	Pigments and disorders - Exogenous – eg. tattoo - Endogenous – eg- haemosiderin, bilirubin, Porphyrin, Melanin Jaundice - conjugated and unconjugated - Pathophysiology Porphyria,Melanoma, vitilgo	2
16	- Introduction to Haematology - Haemopoiesis - Bone marrow aspiration - Biopsy	2
17	**DISEASES OF BLOOD** a) Anaemias - Iron Deficiency anaemia - Megaloblastic anaemia, - Aplastic anaemia - Hemolytic anaemias – - Haemoglobinopathies. - Polycythemea b)Leukaemias - Acute and chronic leukaemias - Diagnosis - Clinical features	4
18	**DISEASES OF LYMPHNODES** a) Hodgkin's disease b) Non Hodgkins lymphoma c) Metastatic carcinoma	2

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19	**DISEASES OF ORAL CAVITY** a) Lichen planus b) Stomatitis c) Leukoplakia d) Squamous cell Ca	2
20	DISEASES OF SALIVARY GLANDS - Normal structure - Sialadenitis,	
21	DISEASES OF BONES a) Osteomyelitis b) Metabolic bone diseases c) Bone Tumours d) Osteosarcoma e) Osteocalstoma, f) Giant cell Tumour g) Ewing's sarcoma h) Fibrous dysplasia i) Aneurysmal bone cyst	3
22	**DISEASES OF CARDIOVASCULAR SYSTEM** a) Cardiac failuare b) Congenital heart disease – ASD, VSD,PDA c) Fallot's Tetrology d) Infective Endocarditis e) Atherosclerosis f) Ischaemic heart Disease	3.5
23	**DISEASES OF KIDNEY** - Glomerulonephritis - Nephrotic, nephritic syndrome - Pyelonephritis	1.5

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24	**HAEMORRHAGIC DISORDERS** - Coagulation cascade - Coagulation disorders - Platelet funtion - Platelet disorders	2

Total – 55 HOURS

PRACTICALS

S. NO	TOPICS	HOURS
1.	Urine Examination Smith's Test Benzedine Test Benedicts test Test for protein Rothera's Test Hey's Test	5
2.	Blood investigations Determination of Haemoglobin percentage Blood grouping. Total Leukocyte count Bleeding time , Clotting time Peripheral blood smear staining and study Differential leukocyte count.	5
3.	Tissue Processing and Staining	10
4.	HISTOLOGY SLIDES Tuberculosis, Actionomycosis, Rhinosporidiosis, Squamous cell papilloma, Transitional cell papilloma, Pleomorphic adenoma Basal cell carcinoms, Sqamous cell carcinoma, Osteosarcoma, osteoclastoma, fibrosarcoma, Malignant melanoma, Ameloblastoma, Adenocarcinoma, Pleamorphic adenoma, Metatsatic carcinoma in lymph node, Filarial lymphadenopathy, Hodgkins disease, Capillary and cavernous haemangioma, Fibroma, Thrombosis, Melanoma Teratoma, T.B lymphadenopathy, Neurofibroma, Lipoma, Osteoma	30

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	chondroma, Acute appendicitis, Granulation tissue, Ulcerations, Fatty liver, CVC lung, CVC liver, CVC spleen, Kidney amyloidosis, Atherosclerosis	
5.	GROSS PATHOLOGICAL SPECIMENS - Acute Appendicitis - Tuberculosis Lymphnode - Fatty liver. - Infarction spleen. - Chronic Venous Congestion (C.V.C.) Liver - Squamous papilloma - Basal cell carcinoma - Lipoma - Squamous cell carcinoma - Malignant Melanoma - Adenocarcinoma - Osteosarcoma - Osteoclastoma. - Gangrene	10

Total – 60 HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

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5. MICROBIOLOGY

AIMS:

To introduce the students to the exciting world of microbes. To make the students aware of various branches of microbiology and the role of microbes in human diseases. The objectives of teaching microbiology can be achieved by various teaching techniques such as:

- Lectures
- Lecture Demonstrations
- Practical exercises
- Audio visual aids

Small group discussions with regular feedback from the students. b)

OBJECTIVES:

i. Knowledge and Understanding

At the end of the Microbiology course the student is expected to:

(1) Understand the basics of various branches of microbiology and able to apply the knowledge relevantly.

(2) Apply the knowledge gained in related medical subjects like General Medicine and General Surgery and Dental subjects like Oral Pathology, Public Health Dentistry, Periodontics, Oral Surgery, Pedodontics, Conservative Dentistry and Oral medicine in higher classes.

(3) Understand and practice various methods of Sterilisation and disinfection in dental clinics.

(4) Have a sound understanding of various infectious diseases and lesions in the oral cavity.

ii. SKILLS

(1) Student should have acquired the skill to diagnose, differentiate various oral lesions.

(2) Should be able to select, collect and transport clinical specimens to the laboratory.

(3) Should be able to carry out proper aseptic procedures in the dental clinic.

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THEORY

S. NO	TOPIC	HOURS
1.	a) Introduction to Microbiology - History and Scope - Aims and Objectives - Classification and characterization of Microorganisms - Morphology and Physiology of bacteria. b) Detail account of Sterilization and Disinfection. c) Brief account of Culture media and Culture techniques. d) Basic knowledge of selection, collection, transport	
2.	IMMUNOLOGY: a) Infection - Definition - Classification, - Source - Mode of transmission and types of Infectious disease. b)Immunity - Structure and functions of Immune system - The Complement System - Antigen c) Immunoglobulins - Antibodies - General structure and the role played in defense d) Mechanism of the body. Immune response Antigen - Antibody reactions - with reference to clinical utility. e)Immunodeficiency disorders - a brief knowledge of various types of immunodeficiency f) Disorders - A sound knowledge of immunodeficiency disorders relevant to dentistry. g) Hypersensitivity reactions	17

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	Autoimmune disorders - Basic knowledge of various types - Sound knowledge of autoimmune disorders of oral cavity and related structures. Immunology of Transplantation and Malignancy Immunohaematology	
3.	SYSTEMATIC BACTERIOLOGY: Pyogenic cocci – Staphylococcus, Streptococcus, Pneumococcus, Gonococcus, Meningococcus - Brief account of each coccus - Detailed account of mode of spread, laboratory diagnosis, chemo therapy and prevention - Detailed account of Cariogenic Streptococci. Corynebacterium diphtheria - Mode of spread, - Important clinical feature, - Laboratory diagnosis, - Chemotherapy and Active Immunisation Mycobacteria - Tuberculosis and Leprosy Clostridium - Gas gangrene, food poisoning and tetanus. Non-sporing Anaerobes – - In brief about classification and morphology, - In detail about dental pathogens - Mechanism of disease production and prevention. Spirochaetes - Treponema pallidum detailed account of Oral Lesions of syphilis Borreliavincentii. Actinomycetes.	16

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4.	VIROLOGY: - Introduction - General properties - Cultivation - Host - virus interaction with special reference to Interferon. - Brief account of Laboratory diagnosis	
	Chemotherapy and Immuno prophylaxis in general. A few viruses of relevance to dentistry. - Herpes Virus - Hepatitis B Virus - brief about other types - Human Immunodeficiency Virus (HIV) - Mumps Virus - Measles - Rubella Virus - Bacteriophage - structure and Significance	13
5.	MYCOLOGY - Brief Introduction - Candidosis - in detail - Briefly on oral lesions of systemic mycoses.	4
6.	PARASITOLOGY: - Brief introduction - protozoans and helminths - Brief knowledge about the mode of transmission and prevention of commonly seen parasitic infection in the region.	4

Total – 65 HOURS

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PRACTICALS

S.NO	TOPIC	HOURS
1.	Introduction to Microbiology	
2.	Microscopy	
3.	Morphology	
4.	Bacteriological sterilization and disinfection	
5.	Culture media	
6.	Culture methods	
7.	Identification of bacteria	20
8.	Antibiotic susceptibility testing	
9.	Simple staining - saliva	
10.	Hanging drop preparation	
11.	Gram staining	
12.	Ziehl Neelsen staining	
13.	Albert staining	
14.	Antigen antibody reactions – I ASO,CRP,RF	1
15	Antigen antibody reactions – II RPR, Widal	
16	Intestinal nematodes (specimens)	
17	Stool examination Demonstration	
18	Lab diagnosis of viral infections – HIV , HBsAG etc	
19	Mycology (macroscopy and Microscopy)	10

Total – 50 HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed bythe teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

6. GENERAL PHARMACOLOGY

a) GOAL:

The broad goal of teaching under graduate students in pharmacology is to inculcate rational and scientific basis of therapeutics keeping in view of dental curriculum and Profession.

b) OBJECTIVES:

At the end of the course the student shall be able to:

i. Describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs in general and in dentistry in particular,
ii. List the indications, contraindications; interactions, and adverse reactions of commonly used drugs with reason,
iii. Tailor the use of appropriate drugs in disease with consideration to its cost, efficacy, safety for individual and mass therapy needs,
iv. Indicate special care in prescribing common and essential drugs in special medical situations such as pregnancy, lactation, old age, renal, hepatic damage and immuno compromised patients,
v. Integrate the rational drug therapy in clinical pharmacology,
vi. Indicate the principles underlying the concepts of "Essential drugs".

c) SKILLS:

At the end of the course the student shall be able to:

i. Prescribe drugs for common dental and medical ailments.
ii. To appreciate adverse reactions and drug interactions of commonly used drugs.
iii. Observe experiments designed for study of effects of drugs.
iv. Critically evaluate drug formulations and be able to interpret the clinical pharmacology of marketed preparations commonly used in dentistry.

d) INTEGRATION:

Practical knowledge of use of drugs in clinical practice will be acquired through integrated teaching with clinical departments

THEORY

S.NO	TOPIC	HOURS
1. GENERAL PRINCIPLES OF PHARMACOLOGY		
1	Introduction, Terminology - Branches	1
2	Route of drug administration	1
3	Precription writing & Rational Prescribing	1
4	Pharmacokinetics (Absorption,distribution,metabolism and excretion of drugs)	4
5	Mode of action of drugs,combined effects of drug, receptor mechanism of drug reactions	2
6	Factors modifying drug response	1
7	Adverse drug reactions	1
8	Drug interactions	1
II. CENTRAL NERVOUS SYSYTEM		
1	General anaesthetics	1
2	Sedative and Hypnotics	1
3	Analgesics (Opioid, NSAIDS)	2
4	Anti epileptics	1
5	Skeletal Muscle relaxants	1
6	Local anaesthetics	1
7	Psychopharmacology, Alcohol & CNS Stimulants	2

III. AUTONOMIC NERVOUS SYSTEM		
1	Sympathomimetics, Vasopressors & treatment of shock	2
2	Antiadrenergic drugs	1
3	Para sympathomimetics	1
4	Parasympatholytics	1
IV. CARDIOVASCULAR DRUGS		
1	Cardiac stimulants	1
2	Antihypertensive drugs	1
3	Antianginal drugs	1
4	Diuretics	1
V. AUTOCOIDS		
1	Histamine & Antihistamines	1
2	Prostaglandins	1
3	Leukotrienes and bronchodilators	1
VI. DRUGS ACTING ON BLOOD		
1	Coagulants & anticoagulants	1
2	Hematinics	1
VII. GASTRO INTESTINAL TRACT		
1	Luxatives & Purgative	1
2	Anti-diarrhoeal	1
3	Drugs for peptic ulcer	1
4	Anti-emetics	1
VIII. ENDOCRINES		
1	Emphasis on treatment of diabetes	1
2	Thyroid and antithyroid agents	1
3	Drugs affecting calcium balance anabolic steroids	1
4	Glucocorticoids	1

IX. CHEMOTHERAPY		
1	General Principles	1
2	Sulfonamides	1
3	Betalactum antibiotics	2
4	Macrolides and aminoglycosides	2
5	Broad spectrum antibiotics	1
6	Antifungal and Antiviral drugs	1
7	Metronidazole	1
8	Fluroquinolones	1
9	Pharmacotherapy of Tuberculosis, Leprosy	1
10	General Principles and management of cancer chemotherapy	1
11	Infection management in dentistry	1
X. MISCELLANEOUS		
1	Vitamins	1
2	Chelating agents - BAL, EDTA and desferrioxamine	1
3	Pharmacotherapy of emergencies in dentistry	1
DENTAL PHARMACOLOGY		
1	Antiseptics and Disinfectants, mouth wash	2
2	Styptics, astringents, Dentifrices, Obtundents	1
3	Bleaching agents, mummifying agents, disclosing agents, caries & fluroides	1
PHARMACY AND DOSAGE FORMS		
1	Liquid dosage forms	1
2	Solid dosage forms	1
3	Parenteral preparations	1
4	Topical application	1
5	Dispensing pharmacy and demonstration	2
6	Guidelines-routes of drug administration with demonstration	2

TOTAL - 71 HOURS

PRACTICALS

1. PRESCRIPTION WRITING & PHARMACOTHERAPY OF EMERGENCIES IN DENTISTRY		
A	**ANS & CVS** 1. Essential hypertension 2. Treatment of anaphylactic reaction to Penicillin 3. Acute Angina pectoris 4. Bleeding after tooth extraction	**2**
B	**HORMONES & GIT** 1. Xerostomia 2. Angular stomatitis 3. Severe epigastric pain due to peptic ulcer 4. Apthous ulcer 5. Scurvy	**2**
C	**CNS** 1. Oral ulcer due to ill-fitting Denture 2. Undergone dental surgery suffering from acute post-operative pain 3. Oral ulceration due to accidental ingestion of acid 4. Oral ulceration due to accidental ingestion of alkali 5. Allergic stomatitis with severe pain.	**2**
D	**CHEMOTHERAPY** 1. Oral candidiasis (or) oral thrush 2. Halitosis 3. Oral cellulites 4. Vincent's angina 5. Tooth extraction in patient with rheumatic heart diseases who is hypersensitive to pencillin	**2**
II. DISPENSING AND DEMONSTRATION		
ANTISEPTICS:		
A	1.Phenol mouth wash	**1**
	2.Condys lotion	**1**
	3.Solution for sterlizing Root canal	**1**
	4.Solution for application on gums after scaling	**1**
	5.Paint for infective gingivitis	**1**
	6.Astringent gum paint for gingivitis powder	**1**

B.NON-ANTISEPTICS:		
B	1.Alkaline mouth wash	**1**
	2.Solution for prevention of Dental caries	**1**
	3.Solution to prevent Tartar formation	**1**
	4.Solution to Arrest bleeding after tooth extraction	**1**
	5.Dentifrices	**1**
	6.Paste for hypersensitive dentin	**1**
	7.Rationale of drug combinations of marketed drugs	**2**
III. PHARMACOLOGY CHARTS		
	1. Bioavailablity 2. Plasma half life 3. Potency and efficacy 4. Plateau principle of drug accumulation 5. Therapeutic index 6. First order kinetics & zero order kinetics 7. Tachyphylaxis or acute tolerance	**4**
IV. CASE HISTORY ON ADR (Adverse Drug Reaction)		
A	**ANS & CVS BLOOD DIURETICS** 1. Adrenaline 2. Nitrates 3. Heparin	**2**
B	**CNS, RS AND AUTOCOIDS** 1. Diazepam 2. Aspirin 3. Promethazine	**2**

C	**CHEMOTHERAPY** 1. Penicillin Allergy 2. Teracycline toxicity 3. Aminoglycoside toxicity 4. Clindamycin	**2**
D	**HORMONES AND GIT** 1. Steroids 2. Oral contraceptive pills 3. Lopramide	**2**
		TOTAL HOURS-34

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed bythe teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

DENTAL MATERIALS

a) INTRODUCTION:

The science of Dental Material has undergone tremendous changes over the years. Continued research has led to new material systems and changing concepts in the dental field. Interlinked with various specialized branches of chemistry, practically all engineering applied sciences and biological characteristics, the science of dental material emerged as basic sciences in itself with its own values and principles.

b) AIMS:

Aim of the course is to present basic chemical and physical properties of Dental materials as they are related to its manipulation to give a sound educational background so that the practice of the dentistry emerged from art to empirical status of science as more information through further research becomes available. It is also the aim of the course of Dental materials to provide with certain criteria of selection and which will enable to discriminate between facts and propaganda with regards to claims of manufactures.

c) OBJECTIVES:

To understand the evolution and development of science of dental material. Knowledge of physical and chemical properties and advantages and disadvantages of the material used in dentistry. Knowledge of biomechanical requirements of particular restorative material and its application & limitations. Laying down standards or specifications of various materials to guide to manufacturers as well as to help professionals. Search for newer and better materials which may answer our requirements with greater satisfaction. To understand and evaluate the claims made by manufactures of dental materials.

At the end of the course the student should have the knowledge about the composition, properties, manipulative techniques and their various commercial names. The student should also acquire skills to select and use the materials appropriately for laboratory and clinical use.

d) NEED FOR THE COURSE:

The profession has to raise from an art to a science, the need for the dentist to possess adequate knowledge of materials to exercises his best through knowledge of properties of different types of materials. There is growing concern of health hazards due to mercury toxicity, inhalation of certain vapors or dust materials, irritations and allergic reaction to skin due to contact of materials. The Dentist need to acquire wider knowledge of physical, chemical and biological properties of the various materials used in the mouth because they may cause irritation of oral tissues. pH of some of the restorative materials cause inflammation and necrosis of pulp which is a concern and the patient should be protected from these. Certain criteria of selection are provided that will enable the dentist to discriminate between facts and propaganda, which will make a material biologically acceptable.

e) SCOPE:

Dental materials are employed in mechanical procedures including restorative dentistry such as Prosthodontics, Endodontics, Periodontics and Orthodontics. There is scarcely a dental procedure that does not make use of dental materials in one form or another and therefore the application of dental material is not limited to any one branch of dentistry. Branches such as minor surgery and Periodontics require less use of materials but the physical and chemical characters of materials are important in these fields. The toxic and tissue reaction of dental materials and their durability in the oral cavity where the temperature is between 32 & 37 degree centigrade, and the ingestion of hot or cold food ranges from 0-70 degree centigrade. The acid an alkalinity of fluids shown pH varies from 4 to 8.5. The load on 1 sq. mm of tooth or restorative materials can reach to a level as high as many kilograms. Thus the biological properties of dental materials cannot be separated from their physical and chemical properties.

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THEORY

1.	Introduction Aims and scope of the science of dental materials Structure and behavior of matter	2
2.	Important physical properties applicable to Dental Materials including their biological considerations - Modulus of elasticity - Strength, Fracture resistance, - Toughness, - Resilience, - Hardness, - Proportional limit, - Endurance Limit, - Fatigue failure, - Tarnish and Corrosion, - Colour , - Metamerism, - Shade selection, - Creep, - Sag, Flow, Viscosity, - Principles of adhesion, - Surface tension, - Wetting, - Galvanism, - Biocompatibility of dental materials	10

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3.	Gypsum products used in dentistry including fasting investment materials with or without gypsum binder. - Origin & manufacture - Classification, Uses & Properties - Setting characteristics including expansion - Working time, mixing time,& setting time - Modifiers.	5
4.	Impressions materials used in dentistry including duplicating materials - Ideal requirements - Classification, - Composition, - Properties and technical considerations including working time, mixing time and setting time of each material with advantages and disadvantages	6
5	Synthetic resins used in dentistry - General properties and physical characteristics. - Resins as denture base materials - Repair and Reline materials, soft liners, tissue conditioners Resins as restorative materials: - Unfilled and filled resin restorative materials, - Tissue sealant. Direct-bonding cement materials	5

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6.	Metals and alloys: - Structure and behaviour - Important physical properties. - Solidification and microstructure of metals, - Equilibrium phases, - Eutectic and peritecticmixture. Classification of alloys in dentistry - Noble and base metal - Metal ceramic alloys - Classification and uses - Advantages and disadvantages Dental amalgam alloys	8
7.	Dental Amalgam Structure and properties Technical considerations	5
8.	Dental waxes including inlay casting wax - Definition - Origin &Composition	4
9.	Gold inlay casting procedures: - Preparation of the die-wax pattern - Spruing, - Investing , - Control of shrinkage - Compensation. - Wax elimination	4

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10.	Welding and soldering materials used	2
11.	Dental cements - Classification - Composition - Manipulation - Properties and uses Glass IonomerCements Light cure composite resin restoration Acid etchant and Dentin conditioners Bonding agents Direct gold Cast restorative materials Pulp protection materials [Definitions Objectives Ideal requirements and classification] Zinc –oxide eugenol cement Zinc phosphate cement Zinc polycarboxylate cement Calcium hydroxide Mineral trioxide aggregate	10
12.	Dental porcelain including porcelain fused to metal. Porcelain furnace and fusing	6
13.	Die and counter die materials including Electro - forming dies	3
14.	Abrasives and polishing agents	2
15.	Hand instruments Impression trays Spatulas Dental handpiece - Types	6
16.	Dental implants	2

Total – 80 HOURS

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PRACTICALS

1	Manipulating and mixing of Gypsum products - Plaster of paris – making cubes - Dental Stone – edentulous casts - Investments – all types	50
2	Manipulating and mixing of Impression materials - Impression compound - Reversible hydrocolloids – heating and conditioning - Irreversible hydrocolloids - Zinc Oxide Eugenol paste - Elastomeric impression paste - Impression taking from an edentulous mould	50
3	Manipulating and mixing of Denture Base materials - Heat cure acrylic resin - Cold cure acrylic resin - Identifying its different physical stages	50
4	Manipulating and mixing Filling materials - Zinc Oxide Eugenol cement - Zinc Phosphate cement - Silicate cement - Zinc Poly carboxylate cement - Resin cements - Silver amalgam	50
5	DEMONSTRATIONS Instrument set up Impression taking Welding Soldering Annealing Pickling Investing Casting procedure	40

Total – 240 HOURS

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PRE CLINICAL PROSTHODONTICS

S.NO	TOPIC	HOURS
1.	DEMONSRATIONS AND PRACTICALS a) Upper and lower dentulous casts using impression compound b) Marking anatomical land marks on the edentulous casts c) Special trays (Using shellac plate or acrylic resin materials) d) Construction of record bases (Using shellac base plate or acrylic) e) Mounting of U/L casts with occlusal rims in class I relation using fixed cannular path articulators f) Arrangement of teeth g) Waxing, Carving & Polishing of wax setup	Theory 15 Practical 200
2.	a) Repair of lower complete denture b) Relining and rebasing of upper complete denture c) Construction of kennedy class IV acrylic partial denture (Upper) d) Construction of kennedy class I (Lower)	Theory 10
	C.D. settings as preliminary training for University exams	6 nos

Total

Theory – 25 HOURS

Practical – 300 HOURS

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PRECLINICAL CONSERVATIVE DENTISTRY & ENDODONTICS

S.NO	TOPICS	HOURS
1	a) Definition, history, scope of operative dentistry and related terminologies b) Dental caries, Classification of cavities c) Hand instruments their respective use and maintenance d) Speed in dentistry and maintenance of handpiece ,burs its anatomy and sterilization, Sterilization and asepsis e) Patient operative position, f) Instrument grasps and rests g) Matrices and retainers, h) Wedges and wedging technique, i) Contacts and contours j) Steps in cavity preparation of class I, class II, class III, class IV and class V k) Recent advances in cavity preparation, l) Minimal invasive dentistry, m) ART n) Sharpening of hand instruments, o) finishing and polishing of various instruments p) Isolation of operating field and control of moisture	15
2	a) Identification and study of hand cutting instruments b) Identification and uses of operative rotary cutting instrument (micromotor) c) Demonstration on operative chairside position d) Arrangement of hand cutting instruments in order e) Demonstration of instrument grasp and rest f) Demonstration for class I, II, III IV & V cavity preparation	10

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3	a) Preparation class I , extended class I and class II and MOD's and class V plaster models b) Demonstration for class I, II, III IV & V cavity preparation c) Exercise on phantom head models which includes cavity preparation, base application, matrix & wedge placement followed by amalgam restoration d) Manipulation of cements like zinc phosphate, zinc oxide eugenol, glass ionomer cements and silver amalgam e) Identification and manipulation of various matrices and wedges f) Cast restorations g) Preparation of class II inlay cavity h) Fabrication of wax patterns i) Sprue for inner attachment investment j) Investment of wax patterns k) Finishing and cementing of class II inlay in extracted tooth	120
4	ENDODONTICS - Identification of basic endodontic instruments - Rubberdam isolation - Coronal access cavity preparation on extracted upper and lower arch teeth - Determination of working length š - Biomechanical preparation of root canal space of central incisors, - Obturation of root canal space - Closure of access cavity	80

Total

Theory – 25 HOURS

Practicals– 200 HOURS

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GENERAL MEDICINE

a) GUIDELINES:

Special emphasis should be given throughout on the importance of various diseases as applicable to dentistry.

i. Special precautions/ contraindication for anaesthesia in oral and dental procedures in different systemic diseases.

ii. Oral manifestations of systemic diseases.

iii. Medical emergencies in dental practice.

A dental student should be taught in such a manner that he/she is able to record the arterial pulse, blood pressure and be capable of suspecting by sight and superficial examination of the body, diseases of the heart, lungs, kidneys, blood etc. He should be capable of handling medical emergencies encountered in dental practice.

THEORY

S.NO	TOPICS	HOURS
1.	Aims of medicine Definitions of diagnosis, treatment & prognosis. History taking Physical examination of the patient Diagnosis and management of disease. Genetics and disease Medical Ethics.	2

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2.	INFECTIONS: a) Enteric fever b) Herpes simplex c) Herpes zoster, d) STDs –Syphilis, Gonorrhea, HPV, HIV e) Diphtheria f) Malaria, g) Actinomycosis, h) Viral hepatitis i) Tuberculosis. j) Infectious mononucleosis k) Mumps l) Measles m) Rubella n) Leprosy Organisation and functions of the immune systems.	14
3.	G.I. T: a) Stomatitis b) Gingival hyperplasia, c) Dysphagia d) Acid peptic disease e) Jaundice f) Acute and chronic hepatitis g) Cirrhosis of liver h) Ascitis i) Amoebiasis j) Tender hepatomegaly k) Hepatotoxic drugs l) Portal hyper tension m) Diarrhoea and Dysentery including Malabsorbtion syndromes Helicobacter pylori.	14

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4.	CVS : a) Acute rheumatic fever b) Valvular heart disease c) Hypertension d) Ischemic heart disease (myocardial infarction) e) Infective endocarditis f) Common arrhythmias g) Classification of congenital heart disease h) Congestive cardiac failure i) Fallot's tetralogy j) ASD, VSD.	4

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5.	RESPIRATORY SYSTEM: Applied Anatomy and physiology of RS a) Pneumonia b) COPD c) Pulmonary tuberculosis d) Bronchial asthma e) Pleural effusion f) Acute respiratory tract infections g) Pulmonary embolism h) Suppurative lung diseases i) Lung abscess j) Pneumothorax k) Bronchiectasis l) Lung Cancer m) Empyema n) Sleep apnoea o) ARDS p) Respiratory failure.	4

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6.	HAEMATOLOGY: - Hematopoiesis - Anaemias - Bleeding & Clotting disorders - Acute and chronic myeloid leukemias - Agranulocytosis and Neutropenia, - Thrombocytopenia - Splenomegaly - Lymphomas - Oralmanifestations of haematological disorders - Generalized Lymphadenopathy. - Principles of blood and blood products transfusion, Thromboembolic disease - Oncogenesis - Haemolytic anaemia - DIC (Disseminated Intravascular Coagulation).	4

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7.	RENAL SYSTEM : - Acute nephritis and Nephrotic syndrome, - U.T.I - Renal function tests	2
8.	NUTRITION: a) Balanced diet b) PEM c) Vitamin deficiency disease d) Calcium and phosphate metabolism e) Flourosis f) Osteomalacia	
9.	CNS: a) Facial palsy b) Facial pain c) Trigeminal neuralgia d) Epilepsy e) Headache including migraine f) Meningitis (Acute and Chronic) Anticonvulsants	4
10.	ENDOCRINE SYSTEM: a) Diabetes mellitus b) Acromegaly c) Hypothyroidism d) Thyrotoxicosis e) Calcium metabolism and parathyroids. f) Addison's disease g) Cushing's syndrome h) Parathyroid disease and calcium metabolism	4

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11.	CRITICAL CARE MEDICAL & EMERGENCIES IN DENTAL PRACTICE a) Syncope b) Cardiac arrest c) Cardio Pulmonary Resuscitation (CPR) d) Cardiogenic shock e) Anaphylaxis f) Allergy g) Angio -neurotic oedema h) Acute LVF i) ARDS j) Coma.	4
12	Miscellaneous : - Adverse drug reactions - Drug interactions - Rheumatoid disease - Osteoarthritis Scleroderma.	2

PRACTICALS **Total 60 hours**

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S.NO	TOPICS	HOURS
	CLINICAL TRAINING: (posting in a general hospital) a)The student must be able to take history b) Do general physical examination – - Build &nourishment, - Pulse, BP, temperature - Oedema - Respiration - Clubbing - Cyanosis - Jaundice - Lymph adenopathy - Oral cavity c) Examination of CVS, RS , Abdomen d)Examination of facial nerve and signs of Meningeal irritation e) Examination and identification of Infectious diseases from signs and symptoms f) Identification of Allergies g) Drug reactions – Drug interactions g)Evaluation of a case of general anaesthesia.	90

Total – 90 HOURS

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GENERAL SURGERY

a) AIMS:

To acquaint the student with various diseases which may require surgical intervention. And to train the student to analyze the disease history and be able to do a thorough physical examination of the patient. The diseases as related to head and neck region are to be given due importance, at the same time other relevant surgical problems are also to be addressed. At the end of one year of study the student should have a good theoretical knowledge of various ailments, and be practically trained to differentiate benign and malignant diseases and be able to decide which patient requires further evaluation.

b) OBJECTIVES:

Skills to be developed by the end of teaching are to examine a routine swelling, ulcer and other related diseases and to perform minor surgical procedures such as draining an abscess, taking a biopsy etc.

THEORY

1.	HISTORY OF SURGERY: The development of surgery as a specialty over the years, will give the students an opportunity to know the contributions made by various scientists, teachers and investigators. It will also enable the student to understand the relations of various specialties in the practice of modern surgery. GENERAL PRINCIPLES OF SURGERY: - Introduction to various aspects of surgical principles as related to orodental diseases.	1

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2.	PRINCIPLES OF OPERATIVE SURGERY: a) Principles as applicable to minor surgical procedures including detailed description of asepsis, antiseptics, sterilisation b) Principles of Anaesthesia c) Principles of tissue replacement d) Knowledge of sutures, drains, diathermy, cryosurgery and use of Laser in surgery	
3.	WOUNDS: a) Their classification b) Wound healing c) Repair d) Treatment of wounds e) Asepsis and Antiseptic measures f) Syncope, Shock & Collapse g) Skin grafting e) Medico legal aspects of accidental wounds f) Complications of wounds	2.5
4.	INFLAMMATION: Of soft and hard tissues. Causes of inflammation Sequelae and treatment.	1

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5	INFECTIONS: a) Acute and chronic abscess b) Skin infections c) Cellulitis d) Carbuncle, e) Erysepelas Specific infections such as f) Tetanus g) Gangrene h) Syphilis i) Gonorrhoea j) Tuberculosis k) Actinomycosis l) Vincents angina m) Cancrum oris n) Pyaemia o) Toxaemia p) Septicaemia TRANSMISSABLE VIRAL INFECTIONS: HIV and Hepatitis B with special reference to their prevention and precautions to be taken in treating patients in a carrier state.	14

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6.	SHOCK AND HAEMORRHAGE: Classification, causes, clinical features and management of various types of a) Shock. b) Syncope c) Circulatory collapse. d) Haemorrhage -different types, causes, clinical features and management. e) Blood groups, blood transfusion, precautions and complications of blood and their products. f) Hemophilias - their transmission, clinical features and management especially in relation to minor dental procedures	2
7.	TUMOURS, ULCERS, CYSTS, GANGRENE, SINUS, AND FISTULAE: - Classification, - Clinical examination - Treatment principles in various types of a) Benign and malignant Tumours b) Ulcers c) Cysts d) Gangrene e) Sinus f) Fistulae.	3.5

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8.	DISEASES OF LYMPHATIC SYSTEM: Especially those occurring in head and neck region. Special emphasis on identifying diseases such as a) Tubercular infection, b) Lymphomas, c) Leukaemias, d) Metastatic lymph node diseases	2
9.	DISEASES OF THE ORAL CAVITY: Infective and malignant diseases of the Oral cavity and Oropharynx including salivary glands with special emphasis on preventive aspects of premalignant and malignant diseases of the oral cavity.	2
10.	NECK SWELLINGS: - Midline and Lateral swellings, - Cystic and Solid swellings - Classification, - Differential diagnosis, - Treatment	2
11.	DISEASES OF THYROID AND PARATHYROID: Surgical anatomy, pathogenesis, clinical features and management of dysfunction of thyroid and parathyroid glands. Malignant diseases of the thyroid—classification, clinical features and management	1.5

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12.	DISEASES OF LARYNX, NASOPHARYNX: Infections and Tumours affecting these sites. Indications, procedure and complications of Tracheostomy.	1.5
13.	E.N.T: Ear: Middle ear infection.. Nose: Para nasal sinusitis; Rhinitis, Epitaxis.. Throat: Tonsilitis & Peritonsillar Abscess Tonsillectomy	1.5
14.	NERVOUS SYSTEM: a) Surgical problems associated with nervous system with special reference to the principles of peripheral nerveinjuries, their regeneration and principles of treatment. b) Detailed description of afflictions of facial nerve and its management. c) Trigeminal neuralgia, its presentation and treatment	12

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15.	FRACTURES: General principles of fractures. Clinical presentation and treatment with additional reference to newer methods of fracture treatment. Special emphasis on fracture healing and rehabilitation.	2
16.	HEAD INJURY & MANAGEMENT	1.5
17.	ANOMALIES OF DEVELOPMENT OF FACE: Surgical anatomy and development of face. Cleft lip and cleft palate—principles of management	1.5
18.	DISEASES OF ARTERIES AND VEINS IN GENERAL: a) Varicose veins b) Atherosclerosis c) Aneurysm, d) Carotid Body tumours	1
19.	Management of severely injured patient - Resuscitation	1

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20.	SWELLINGS OF THE JAW: Differential diagnosis and management of different types of swellings of the jaw Osteomyelitis of Mandible/Maxilla	2
21.	BIOPSY: Different types of biopsies routinely used in surgical practice	1
22.	BURNS AND SCALDS	1

Total – 60 HOURS

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PRACTICALS

S.NO	TOPICS	HOURS
1.	History taking and Examination of Ulcers History taking and Examination of Swellings History taking and Examination of Thyroid History taking and Examination of Head & Neck malignancies History taking and Examination of Surgical OPD	60
2.	Detailed case sheet writing and demonstrations Ward procedure including wound dressing	30

Total – 90 HOURS

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ORAL PATHOLOGY AND ORAL MICROBIOLOGY

a) OBJECTIVES:

At the end of Oral Pathology & Microbiology course, the student should be able to:

i. Comprehend the different types of pathology involved in the Orofacial tissues.

ii. Comprehend the pathogenesis of common oral diseases, their clinical manifestation & correlation with histopathological features for diagnosis.

iii. Understand the oral manifestations of systemic diseases and correlate with the systemic physical signs & laboratory findings.

iv. Understand the underlying the principles of different types of biopsies.

v. Understand the principles of certain basic aspects of Forensic Odontology.

b) SKILLS

The Following skills are to be developed:

i. Microscopic study of common lesions affecting oral tissues through microscopic slides & virtual microscopy

ii. Study of teeth anomalies/polymorphisms through tooth specimens & plaster casts.

iii. Microscopic study of different oral micro organism

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THEORY

S.NO	TOPICS	HOURS
1.	Developmental disturbances of teeth, jaws and soft tissues of oral & paraoral region : Introduction to developmental disturbances – Hereditary, Familial mutation, Hormonal etc. Causes to be highlighted a) Developmental disturbances of Jaws - Agnathia, - Micrognathia, - Macrognathia, - Facial Hemihypertrophy, - Facial Hemiatropy b) Developmental Disturbances of lips and palate - Congenital Lip pits and Commissural pits and fistulas - Double lip, Cleft lip and cleft Palate, - Chelitis Glandularis, - Chelitis Granulomatosa, - Hereditary Intestinal Polyposis, - Hereditary Melanotid Macule c) Developmental disturbances of Oral Mucosa - Fordyce's Granules - Focal epithelial Hyperplasia d) Developmental disturbances of gingiva - Fibromatosis Gingiva - Retrocuspid Papilla	6

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	g) Developmental disturbances of salivary glands: - Aplasia, - Xerostomia, - Hyperplasia of the palatal glands, - Atresia, - Abberrancy, - Stafine's cyst	

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2.	Developmental disturbances of teeth – Etiopathogenesis, clinical features, radiological features & histopathological features as appropriate :- The size, shape, number, structure & eruption of teeth & clinical significance of the anomalies to be emphasized a) Developmental disturbances in size of teeth: - Microdontia, - Macrodontia b) Developmental disturbances in the shape of the teeth: - Fusion - Germination - Concrescence - Dilacerations - Talon's Cusp - Dens in Dente - Dens Evaginatus - Taurodontism - Supernumerary Roots - Enameloma c) Developmental Disturbances in number of teeth: - Anodontia - Supernumerary teeth - Hypodontia - Predecidious and Post Permanent dentition d) Developmental Disturbances in Structure of teeth: - Amelogenesis Imperfecta - Enamel Hypoplasia - Dentinogenesis Imperfecta - Dentinal dysplasia - Regional Odontodysplasia - Shell Teeth	6

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	e) Developmental Disturbances in eruption of teeth: - Premature Eruptions, - Eruption Sequestrum, - Delayed Eruption, - Multiple Unerupted teeth, - Submerged Teeth	
3.	Developmental / Fissural cysts of the Oral cavity - Median palatal cyst - Globulomaxillary cyst - Median Mandibular cyst - Naso-alveolar cyst - Palatal cyst of neonates - Thyroglossal duct cyst - Epidermoid, and Dermoid cyst - Nasopalatine cyst	2
4.	Dental caries - Theories - Clinical features - Classification, - Histopathology - Microbiology of Dental caries - Immunology, - Caries activity tests - Prevention - Factors influencing caries	5

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5.	Diseases of the Pulp & Periapical tissues a) Diseases of the Dental Pulp - Acute Pulpitis - Focal Reversible Pulpitis - Chronic Pulpitis - Pulp Polyp b) Diseases of the Periapical Tissues - Periapical Granuloma - Periapical Abscess - Periapical Cyst Sequelae of periapical abscess: Summary of space infections Systemic complications & significance Osteomyelitis - Acute Suppurative Osteomyelitis - Chronic Focal and Diffuse Sclerosing	
6.	Periodontal Diseases : Stains, Calculus and Dental plaque Etiopathogenesis Microbiology Clinical features Histopathology Radiological features (as appropriate) of – - Gingivitis, - Gingival enlargements - ANUG - Chronic desquamative gingivitis - Periodontitis and Juvenile Periodontitis. Basic immunological mechanisms of periodontal disease to be highlighted	5

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7.	Brief review & oral manifestations, diagnosis & significance of common Blood, Nutritional, Hormonal & Metabolic diseases of Oral cavity. Blood dyscrasias Clinico-pathological aspects and oral manifestations of: - Anemias, - Polycythemia, - Leukopenia, - Neutropenia, - Agranulocytosis, - Chediak-Higashi syndrome, - Leukocytosis, - Infectious mononucleosis, - Leukemias - Purpura - Haemophilia Oral aspects of Disturbances in mineral metabolism Oral aspects of Avitaminosis and Hypervitaminosis Oral Aspects of Endocrine dysfunction	7

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8.	Mucocutaneous lesions Aetiopathogenesis, Clinical features , Histopathology of the following common lesions: - Lichen Planus - Lupus Erythematosus - Pemphigus & Pemphigoid lesions - Erythema Multiforme - Psoriasis - Scleroderma - Ectodermal Dysplasia - Epidermolysis bullosa - White sponge nevus	7
9.	Diseases of the Nerves and their implications to oral tissues Facial Neuralgias - Trigeminal Neuralgia - Sphenopalatine Neuralgia - Glosso pharyngeal neuralgia VII nerve paralysis, Causalgia Psychogenic facial pain & Burning mouth syndrome.	4

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10.	Pigmentation of Oral tissues - Pigmentation of Oral & Paraoral region - Discolouration of teeth : Causes & clinical manifestations	2
11.	Principles of Basic Forensic Odontology - Introduction, definition, aims & scope. - Sex and ethnic (racial) differences in tooth morphology and histological - age estimation - Determination of sex & blood groups from buccal mucosa / saliva. - Dental DNA methods - Bite marks, rugae patterns & l ip prints - Dental importance of poisons and corrosives - Overview of forensic medicine and toxicology	5
12.	Diseases of TMJ - Ankylosis - Luxation - Subluxation, Summary of different types of Arthritis	

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13.	Cysts of the Oral and Paraoral region Classification Aetiopathogenesis Clinical features, Histopathology Laboratory & Radiological features (as appropriate) of : Odontogenic cysts - Odontogenic keratocyst, - Dentigerous cyst, - Primordial cyst, - Dental lamina cyst of newborn, - Gingival cyst of adults, - Lateral periodontal cyst, - Calcifying odontogenic cyst,Radicular cyst Non-Odontogenic cysts- - Pseudocysts of jaws - Aneurysmal bone cyst, - Traumatic bone cyst - Soft tissue cysts of oral & paraoral region	7
14.	ORAL CANCER - Epidemiology& Aetiology, - Clinical and Histopatholotgical features - TNM classification. - Recent advances in diagnosis, management and prevention	3

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15.	Biopsy : - Types of biopsies - Value of biopsy - Cytology Histo chemistry & frozen sections in diagnosis of oral diseases	5
16.	Premalignant Lesions and conditions Definition, Classification, Etiology - Epithelial dysplasia - Leukoplakia - Carcinoma insitu - Erythroplakia - Oral submucous fibrosis	3

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17.	Benign and malignant Tumours of Oral cavity: Classification of Odontogenic Non-Odontogenic & Salivary Gland Tumours. Aetiopathogenesis, Clinical features,Histopathology,Radiological features ,Laboratory diagnosis (as appropriate) of the following common tumours :- Odontogenic tumours: Benign Odontogenic epithelium without odontogenic ectomesenchyme - - Ameloblastoma - Calcifying Epithelial Odontogenic Tumour - Adenomatoid Odontogenic Tumour - Squamous Odontogenic tumour Odontogenic epithelium with Odontogenic ectomesenchyme- - Ameloblastic fibroma - Ameloblastic fibro odontoma - Odontoma - Dentinogenic Ghost cell Tumour Odontogenic ectomesenchyme with or without included odontogenic epithelium- - Peripheral and Central odontogenic fibroma - Odontogenic Myxoma - Benign cementoblastoma	6

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	Malignant Odontogenic carcinomas: - Metastasizing ameloblastoma, - Ameloblastic carcinoma Non-odontogenic Benign tumours of epithelial tissue origin – - Papilloma - Keratoacanthoma - Nevus Malignant tumours of epithelial tissue origin - Basal cell carcinoma - Epidermoid carcinoma - Verrucous carcinoma - Malignant melanoma	6
	Benign tumours of Connective tissue origin - Fibroma - Giant cell fibroma - Peripheral and Central ossifying fibroma - Lipoma - Haemangioma(different types) - Lymphangioma - Chondroma - Osteoma - Osteoid osteoma - Benign Osteoblastoma - Tori - Multiple exostoses Tumour like lesions of Connective tissue origin- - Peripheral ossifying fibroma Malignant tumours of Connective tissue origin - Fibrosarcoma - Chondrosarcoma - Kaposi's sarcoma - Ewing's sarcoma	7

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	Benign tumours of Muscle tissue origin - Leiomyoma - Rhabdomyoma - Congenital Epulis of newborn - Granular cell tumour Benign and Malignant tumours of Nerve tissue origin - Neurofibroma and Neurofibromatosis - Schwannoma - Melanotic neuro ectodermal tumour of infancy - Malignant Schwannoma. Metastatic tumours of Jaws and Soft tissues of oral cavity Salivary Gland Benign neoplasms: - Pleomorphic Adenoma - Warthin's tumour, - Oncocytoma. Malignant neoplasms : - Malignant Pleomorphic adenoma - Adenoid Cystic Carcinoma - Mucoepidermoid Carcinoma - Acinic Cell Carcinoma & Adenocarcinomas	2 8

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18.	Common non- inflammatory diseases involving the jaws : Aetiopathogenesis, clinical features, radiological & laboratory values in diagnosis of : - Fibrous dysplasia - Cherubism - Osteogenesis Imperfecta - Paget's disease - Cleidocranial dysplasia - Rickets - Achondroplasia - Marfan's syndrome - Down's syndrome -	8
19.	Traumatic, Reactive & Regressive lesions of Oral Cavity : - Pyogenic & Giant cell granuloma - Exostoses - Fibrous Hyperplasia - Traumatic Ulcer & Traumatic Neuroma. - Attrition - Abrasion - Erosion - Bruxism - Hypercementosis - Dentinal changes - Pulp calcification - Resorption of teeth	4

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20.	Radiation effects of oral and para oral structures Summary of Physical & Chemical injuries including allergic reactions of the oral cavity. Defence mechanism of oral tissues and healing following injuries. Complications of healing - Dry socket	5
21.	MICROBIOLOGY Microbial infections of oral soft tissues Defence mechanisms including immunological aspects. Oral manifestations Histopathogy &Laboratory diagnosis of common bacterial, viral & fungal infections namely :- Bacterial : Scarlet fever - Diphtheria - Tuberculosis - Syphilis - Gonorrhea - Actinomycoses - ANUG & its complications - Cancrum Oris - Tetanus,Noma Viral : - Herpes Simplex - Varicella zoster - Measles - Mumps - HIV infection and Oral manifestation of AIDS. Fungal : - Candidiasis - Histoplasmosis	

TOTAL – 145 HOURS

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PRACTICALS

1.	Identification of the pathologic features of: - Microdontic tooth - Macrodontic tooth - Gemination of tooth - Fused teeth - Concrescence of tooth - Dilaceration - Dens in dente - Dens evaginatus - Supernumerary root - Hypoplastic enamel - Fluorosis - Abrasion - Attrition - Fracture tooth - Stained tooth - Hypercementosis	20
2.	Biospy and Exfoliative cytology techniques	5
3.	Examination of the following gross specimens: - Papilloma - Fibroma - Torus - Oral carcinomas - Salivary Gland Tumours - Ameloblastoma	30

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4.	Preparation of oral swab for Microbiology Microbiologic Examination of: - Tuberculosis - Actinomycosis - Syphilis - Candidiasis	10
5.	Histopathologic review of: (slides) - Squamous Papilloma - Oral Squamous cell carcinoma - Peripheral Giant Cell Granuloma - Leukoplakia - Carcinoma in situ - Oral Submucous Fibrosis - Pleomorphic Adenoma - Mucoepidermoid carcinoma - Adenoid cystic carcinoma - Dentigerous Cyst - Odontogenic Keratocyst - Ameloblastoma - Pulp stone - Lichen Planus - Pemphigus - Dental Caries	50

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6.	Forensic Pathology - Age determination from skull	5
7.	Haematology Procedures: - Preparation of peripheral smear - Determination of TC, DC, ESR, Hb ,Bleeding Time, Clotting Time ,Blood Picture	10

Total 130 HOURS

A work record should be maintained by all students detailing each of the practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the Head of the department.

DENTAL ENGINEERING

INTRODUCTION

Dentistry has always been heavily dependent on equipment and devices to render its high precision services. Dental engineers offer invaluable service in ta dental practice to ensure that the equipment used by a Dentist is in excellent working condition and thereby limiting valuable downtime that may result from equipment failure. Regular servicing will also avoid costly downtime

Students will be trained within a excellent infrastructure including a sophisticated workshop, high-end-equipment, advanced clinical setup which provides an ideal learning atmosphere. The students get guidance from experienced and eminent professionals in dental industry, department heads, dental equipment manufacturer etc.

VISION

To make the undergraduate dental students understand the basic principles of dental engineering and infuse the knowledge they have acquired in their future clinical practice

MISSION

To impart knowledge on the basic principles, functions and maintenance of dental equipments / instruments to undergraduate dental students

QUALITY POLICY

To prepare students to have basic knowledge on dental engineering principles and train them to enhance their skill in maintenance of dental equipments.

GOALS

The dental graduates during their training in the course should acquire adequate knowledge, necessary skills and reasonable attitudes that are required for carrying out all activities appropriate to general dental practice

OBJECTIVES

To impart basic knowledge on the electrical, mechanical and pneumatic parts of various dental equipments.

To make the students aware of working principles of various instruments/materials required in establishing a dental clinic

To acquire the basic skills to manage the problems encountered while maintaining dental equipments

To develop an attitude to apply the current knowledge of dental engineering while setting a dental clinic.

CURRICULUM AMD SYLLABUS

- Dental chairs - Parts and function
- Suction apparatus
- Dental hand piece
- Scalers
- Compressors
- Dental stools
- Ergonomics
- Sterilization equipment's
- Various X ray systems
- Recent advancements

1. Dental Chair

1. Introduction To Dental Chairs
2. History Of Dental Chair
3. Types Of Dental Chair
4. Parts Of Dental Chair
5. Function And Operation Of Parts
6. How To Choose An Ideal Dental Chair
7. Functioning Of Parts Of Dental Chair- Demonstration
8. Conclusion

2. Suction Units

I. Introduction About Suction Units
II. Importance Of Having A Clear Workfield.
III. Rationale Behind Use Of Suction Apparatus
IV. Parts Of Dental Suction Unit
V. Types Of Suction System
VI. Motorized And Pneumatic Suction Unit
VII. How Does Dental Suction Unit Work?
VIII. Importance Of Dental Suction Unit?
IX. How To Choose A Right Suction Equipment?
X. Preventive Maintanance .

3. Dental Handpiece

1) Introduction
2) Classification Of Speed
3) Difference Between Airotor And Micromotor
4) Evolution And Types Of Handpieces
5) Parts And Mechanics Involved Handpiece
6) Demonstration Of Parts Involved
7) Types Of Bearings Used
8) Applications Of Handpiece Based On Its Speed
9) Oiling And Maintanence Of Handpiece
10) Conclusion

4. Scalers:

4.1 Introduction
4.2 Mechanism of Action of Power Scalers
4.3 Parts of an Ultrasonic Scaler
4.4 Type and Benefit of Power Instruments
4.5 Tip Designs 4.6 Clinical Outcomes of Power-Driven Instruments
4.7 Special Considerations 4.8 Principles of Instrumentation
4.9 Advantages
4.10 Disadvantages
4.11 Indications
4.12 Contra Indications

5. Dental Compressor

- Dental Unit Design
- What Is Dental Compressor
- Why Is A Dental Compressor Important?
- Types
- How They Function
- Picking A Dental Compressor – Factors To Consider
- Parts Of Compressor
- Dental Regulations
- Benefits
- Where To Install

- Smart Technology For Future Planning
- Literature Evidences
- Maintainance

6. Dental stools

- History
- Evolution
- Types
- Recent advances
- Maintenance

7. Ergonomics

1. Introduction
2. Application Of Ergonomics
3. Ergonomic Risk Factors In Dentistry
4. Msds
5. Carpal Tunnel Syndrome (Cts)
6. Myofascial Pain Disorder (Mpd)
7. Application Of Ergonomics

8. Sterilisation and Equipments

- Definition
- Instruments Washing
- Sterilisation cycle
- Methods of Sterilisation in Dentistry
- Autoclave , its parts, Mechanism of action usage

9. X-Ray Machines

1. Types Of Commonly Used X-Ray Machines
2. Differences Between Ac And Dc Dental X-Ray Unit
3. Parts Of Dental X-Ray Machine
   A. Dental X-Ray Tube
   B. Position Indicating Device /Cone
   C. Circuit Board And Timer
4. Dental X-Ray Unit With Radiovisiography (Rvg)
5. Various Dimensions Of Sensor
6. Advantages Of Digital Imaging
7. Types Of Sensors
8. X-Ray Holders
9. Radio Hazard Label
10. Aerb Protocol As Per Clinical Establishment Act
11. AMC And Its Benefits
12. CBCT in Brief and Its Advantages:

10. RECENT ADVANCES

- Laser
- Piezo
- Photobiomodulation
- Loupes
- Microscpes
- CAD- CAM
- BIO PRINTING

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ORAL MEDICINE AND RADIOLOGY

a) AIM

i. To train the students to diagnose the common disorders of Orofacial region by clinical examination and with the help of such investigations as may be required and medical management of oro-facial disorders with drugs and physical agents.

ii. To train the students about the importance, role, use and technics of radiographs and other imaging methods in diagnosis.

iii. The principles of the clinical and radiographic aspects of Forensic Odontology.

b) COURSE CONTENT

i. The syllabus in ORAL MEDICINE & RADIOLOGY is divided into two main parts.

(1) Diagnosis, Diagnostic methods and Oral Medicine

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(2) (II) Oral Radiology. Again the part ONE is subdivided into three sections. (A) Diagnostic methods (B) Diagnosis and differential diagnosis (C) Oral Medicine & Therapeutics.

ii. Emphasis should be laid on oral manifestations of systemic diseases and ill-effects of oral sepsis on general health.

iii. To avoid confusion regarding which lesion and to what extent the student should learn and know, this elaborate syllabus is prepared. As certain lesions come under more than one group, there is repetition.

THEORY

S.NO	TOPICS	HOURS
1.	INTRODUCTION TO ORAL MEDICINE- DEFINITION,SCOPE & CLINICAL APPLICATIONS PRINCIPLES OF ORAL DIAGNOSIS Definition Importance of Diagnosis and various types of diagnosis Method of clinical examinations. a) General Physical examination by inspection. b) Oro-facial region by inspection, palpation and other means to train the students about the importance, role, use of saliva and techniques of diagnosis of saliva as part of oral disease. c) Examination of lesions like swellings, ulcers, erosions, sinus, fistula, growths, pigmented lesions, white and red patches. d) Examination of lymph nodes. e) Forensic examination – Procedures for post-mortem dental examination; maintaining dental records and their use in dental practice and post-mortem identification; jurisprudence and ethics.	2

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2.	INVESTIGATIONS - Biopsy and exfoliative cytology - Hematological - Microbiological - other tests and investigations necessary for diagnosis and prognosis	3
	DIAGNOSIS & DIFFERENTIAL DIAGNOSIS	
3.	Anomalies of teeth - Developmental abnormalities - Causes of destruction of teeth and their sequelae. - Discoloration of teeth Anomalies of Skull –Size, Shape, other defects. Anomalies of jaw bones - Mandible : (Ant. region, Body, Post. region (angle), Ramus - Maxilla :(Ant. region, Post. region, palate) - Diseases of bone and Osteodystrophies:	2

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4.	a) Development disorders: - Anomalies - Exostosis and tori - Infantile cortical hyperostosis - Osteogenesis imperfect - Marfans syndrome - Osteopetrosis. b) Inflammation: - Injury - Infection and spread of infection - Fascial space infections - Osteoradionecrosis. c) Metabolic disorders: - Histiocytosis d) Endocrine : - Acromegaly - Hyperparathyroidism e) Miscellaneous: - Paget's disease - Mono and polyostotic fibrous dysplasia - Cherubism	2.5

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5.	Temparomandibular joint: - Developmental abnormalities of the condyle. - Rheumatoid arthritis, - Osteoarthritis, - Sub-luxation and luxation	1.5
6.	Common cysts and Tumors: CYSTS a) Cysts of soft tissue: Mucocele and Ranula b) Cysts of bone: Odontogenic and non odontogenic TUMOURS a) Soft Tissue: - Epithelial: Papilloma, Carcinoma, Melanoma - Connective tissue: Fibroma, Lipoma, Fibrosarcoma - Vascular: Haemangioma, Lymphangioma - Nerve Tissue: Neurofibroma, Traumatic Neuroma, Neurofibromatosis - Salivary Glands: Pleomorphic adenoma, Adenocarcinoma, Warthin's Tumor, Adenoid cystic carcinoma. b) Hard Tissue: - Non Odontogenic: Osteoma, Osteosarcoma, Osteoclastoma, Chondroma, Chandrosarcoma, Central giant cell tumor, and Central haemangioma.	

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7.	Granulomatous diseases: - Tuberculosis - Sarcoidosis - Midline lethal granuloma - Crohn's Disease - Histiocytosis X Miscellaneous Disorders: - Burkitt lymphoma - Sturge – Weber syndrome, - CREST syndrome, - Rendu-osler-weber disease	2
ORAL MEDICINE AND THERAPEUTICS		
8.	Infections of oral and para oral structures: a) Bacterial: Streptococcal, Tuberculosis, Syphillis, Vincents, Leprosy, Actinomycosis, Diphtheria and Tetanus etc b) Fungal: Candida albicans c) Viral: Herpes simplex, Herpes zoster, Ramsay hunt syndrome, Measles, Herpangina, Mumps Infectious mononucleosis, AIDS and Hepatitis-B	4

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9.	Important common Mucosal Lesions: a) White lesions: Chemical burns, Leukodema, Leukoplakia, Fordyce spots, Stomatitis nicotina palatinus, White sponge nevus, Candidiasis, Lichenplanus, Discoid lupus erythematosis b) Vesiculo-bullous lesions: Herpes simplex, Herpes zoster, Herpangina, Bullous lichen planus, Pemphigus, Cicatricial pemphigoid Erythema multiforme. c) Ulcers: Acute and chronic ulcers d) Pigmented lesions: Exogenous and endogenous e) Red lesions: Erythroplakia, Stomatitis venenata and medicamentosa, Erosive lesions and Denture sore mouth.	4.5

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10.	Facial pain a)Organic pain: - Pain arising from the diseases of orofacial tissues like teeth, pulp, gingival,periodontal tissue, mucosa, tongue, muscles, blood vessels, lymph tissue, bone, paranasal sinus, salivary glands etc. b) Pain arising due to C.N.S. diseases: - Pain due to intracranial and extracranial involvement of cranial nerves. (Multiple sclerosis, cerebrovascular diseases, trotter's syndrome etc.) c) Neuralgic pain due to unknown causes: - Trigeminal neuralgia, Glossopharyngeal neuralgia, Sphenopalatine Ganglion neuralgia, Periodic migrainous neuralgia and Atypical facial pain d) Referred pain: - Pain arising from distant tissues like heart, spine etc.	4
11.	Tongue in local and systemic disorders: Aglossia, Ankyloglossia, Bifid tongue, Fissured tongue, Scrotal tongue, Macroglossia, Microglossia, Geographic tongue, Median rhomboid glossitis, Depapillation of tongue, Hairy tongue, Atrophic tongue, Reactive lymphoid hyperplasia, Glossodynia, Glossopyrosis, Ulcers, White and red patches etc.	3

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12.	Oral manifestations of: a) Metabolic disorders: - Porphyria - Haemochromatosis - Histocytosis X diseases b)Endocrine disorders: - Pituitary: Gigantism, acromegaly,hypopitutarism - Adrenal cortex: Addison's disease(Hypofuntion) - Cushing's syndrome (Hyperfunction) - Parathyroid glands: Hyperparathyroidism. - Thyroid gland: (Hypothyroidism) Cretinism, myxedema - Pancreas: Diabetes c) Nutritional deficiency: - Vitamins: riboflavin, nicotinic acid, folic acid VitaminB12, VitaminC(Scurvy) d) Blood disorders: Red blood cell diseases: - Deficiency anemias: Iron deficiency, Plummer – vinson syndrome, Pernicious anemia - Haemolytic anemias: Thalassemia, Sickle cell anemia, Erythroblastosis fetalis - Aplastic anemia - Polycythemia White Blood cell diseases: - Neutropenia, Cyclic neutropenia, agranulocytosis, Infectious mononeucleosis and Leukemias d)Haemorrhagic disorders: - Thrombocytopenia, Purpura, Hemophillia, Christmas disease and Von willebrand's disease	2.5

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13.	Disease of salivary glands: a) Development distrubances: - Aplasia, Atresia and Aberration b) Functional disturbances: - Xerostomia, Ptyalism c) Inflammatory conditions: - Nonspecific sialadenitis, Mumps, Sarcoidosis Heerdfort's syndrome (Uveoparotid fever), Necrotising sialometaplasia d) Cysts and tumors: - Mucocele, Ranula, Pleomorphic adenoma, Mucoepidermoid carcinoma	2.5
14.	Dermatological diseases with oral manifestations: a) Ectodermal dysplasia b) Hyperkerotosis palmarpiantaris with periodontopathy c) Scleroderma d) Lichen planus including ginspan'ssyndrome e) Lupus erythematosus f) Pemphigus g) Erythema multiforme h) Psoriasis	1.5

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15.	Immunological diseases with oral manifestations a) Leukemia b) Lymphomas c) Multiple myeloma d) AIDS clinical manifestations e) Opportunistic infections f) Neoplasms g) Thrombcytopenia h) Lupus erythematosus	
16.	Management of dental problems in medically compromised persons: Physiological changes: Puberty, pregnancy and menopause The patients suffering with cardiac, respiratory, liver, kidney and bleeding disorders Hypertension, diabetes and AIDS. Post-irradiated patients	2
17.	Nerve and muscle diseases: a)Nerves: a) Neuropraxia b) Neurotemesis c) Neuritis d) Facial nerve paralysis including ,Bell's palsy, Heerfordt's syndrome, Melkerson Rosenthel syndrome and ramsay hunt syndrome e) Neuroma f) Neurofibromatosis g) Frey'syndrome b)Muscles: a) Myositis ossificans b) Myofacial pain dysfunction syndrome Trismus	2

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18.	Psychosomatic diseases - Burning mouth syndrome - Glossopyrosis - Glossodynia - Orofacial dysesthesia - Cancerophobia - MPDS - Altered sensations: Cacogeusia taste and smell abnormalities	2
19.	Forensic odontology: - Medico legal aspects of orofacial injuries - Identification of bite marks - Determination of age and sex - Identification of cadavers by dental appliances - Restorations - Tissue remnants	1
20.	THERAPEUTICS: - General therapeutic measures – drugs commonly used in oral medicine viz., - Antibiotics - Anti-inflammatory and Analgesic drugs - Astringents - Mouth washes - Styptics - Demulcents - Local surface anaesthetic - Sialogogues &Antisialogogues - Chemotherapeutic agents - drugs used in the treatment of Malignancy	3.5

Total – 50 HOURS

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	RADIOLOGY	
21.	INTRODUCTION TO ORAL RADIOLOGY- HISTORY, ORIGIN, DEFINITIONS, SCOPE & LIMITATIONS Physics of radiation: - Nature and types of radiations - Source of radiations - Production of X-rays - Properties of X-rays - Compton effect - Photoelectric effect - Radiation measuring units	2
22.	Biological effects of radiation Radiation safety and protection measures Principles of image production	2

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23.	Radiographic techniques a)Intra-Oral: - Periapical radiographs (Bisecting and parallel techniques) - Bite wing radiographs - Occlusal radiographs b) Extra-oral: - Lateral projections of skull and jaw bones and paranasal sinuses - Cephalograms - Pantomograms - Projections of temperomandibular joint and condyle of mandible - Projections for Zygomatic arch c)Specialised techniques: - Sialography - Xeroradiography - Tomography Fluoroscopy	4

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24.	Factors in production of good radiographs: - K.V.P. and mA. of X-ray machine - Filters - Collimations - Intensifying screens - Grids - X-ray films - Exposure time - Techniques - Dark room - Developer and fixer solutions - Film processing	2
25.	Radiographic normal anatomical landmarks	1
26.	Faulty radiographs and artefacts in radiographs	1
27.	Interpretation of radiographs in various abnormalities of teeth, bones and other orofacial tissues	2
28.	Principles of radiotherapy of Oro-facial malignancies and complications of radiotherapy Contrast radiography and basic knowledge of radio-active isotopes and tracers Recent Advances in Imaging and dental radiography- CBCT& Applications in dentistry Radiography in Forensic Odontology - Radiographic age estimation and postmortem radiographic methods	1

Total – 15 HOURS

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PRACTICALS

1.	Demonstration of Case History Taking General Physical Examination Extra Oral, Examination of TMJ Lymph nodes Intra Oral Hard & Soft Tissue Examination.	20 HOURS
2.	- Patient examination - Patient assessment - Treatment planning - Prescription of medication with dose, - Referral forms (Routine OP and referrals to other departments), - Opinion Seeking Forms - Investigation Requisition forms - Follow up protocols	25 HOURS
3.	Caries Risk Assessment, Diagnosis and Management of Pulpal & Periapical Pathologies	15 HOURS
4.	Recording of detailed case histories of special cases	10 HOURS
5.	Discussions - should have participated in at least 20 long case discussions	20 HOURS
6.	Investigative procedures : - Biopsy - Exfoliative Cytology Interpretation of Hematological ,Microbiological and	15 HOURS

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7.	Case presentation – Presentation of one special case at the end of year with - Case history - Differential diagnosis - InvestigationsDiagnosis - Treatment plan - Pre operative, follow up and post operative photographs and radiographs - Prognosis	5
	RADIOLOGY	
8.	Demonstration of Use of Radiographic Equipment's and Accessories, Dark Room Procedures	5 HOURS
9.	Demonstration of Intraoral Radiographic techniques	2 HOURS
10.	Demonstration of Extraoral Radiographic Techniques	1hr
11.	Demonstration of Panaromic Radiographic Techniques	2 HOURS
12.	Intraoral Radiography a)IOPA with - Bisecting Angle, - Paralleling. b)Bitewing c)Occlusal Radiographs and interpretation	40 HOURS
13.	Panoramic Radiography 5/interpret	5 HOURS
14.	Extra Oral Radiography 5/ interpret	5 HOURS

Oral Medicine- 110 HOURS Radiology- 60 HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

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PEDIATRIC AND PREVENTIVE DENTISTRY

THEORY

1.	INTRODUCTION TO PEDIATRIC & PREVENTIVE DENTISTRY. - Definition, Scope, Objectives and Importance. - Infant oral health care - Anticipatory guidance	2
2.	GROWTH & DEVELOPMENT: - Importance of study of growth and development in Paedodontics. - Prenatal and Postnatal factors in growth & development. - Theories of growth & development. - Development of maxilla and mandible and related age changes	
3.	DEVELOPMENT OF OCCLUSION FROM BIRTH THROUGH ADOLESCENCE. - Study of variations and abnormalities	2
4.	DENTAL ANATOMY AND HISTOLOGY: - Development of teeth and associated structures. - Eruption and shedding of teeth. - Teething disorders and their management. - Chronology of eruption of teeth. - Differences between deciduous and permanent teeth. - Development of dentition from birth to adolescence - Importance of first permanent molar.	2
5.	DENTAL RADIOLOGY RELATED TO PAEDODONTICS	1

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6.	ORAL SURGICAL PROCEDURES IN CHILDREN. - Indications and contraindications of extractions of primary and permanent teeth in children. - Knowledge of Local and General Anaesthesia. - Minor surgical procedures in children	2
7.	DENTAL CARIES: Historical background. - Definition, aetiology & pathogenesis. - Caries pattern in primary, young permanent and permanent teeth in children. - Nursing caries, Rampant caries, early childhood cariesand extensive caries. - Definition, aetiology, Pathogenesis, Clinical features Complications & Management - Role of diet and nutrition in Dental Caries. - Dietary modifications & Diet counseling. Caries activity, tests, caries prediction, caries susceptibility & their clinical application	3

8.	GINGIVAL & PERIODONTAL DISEASES IN CHILDREN. - Normal gingiva & periodontium in children. - Definition, aetiology & Pathogenesis. - Prevention & Management of gingival & periodontal diseases.	2

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9.	CHILD PSYCHOLOGY: - Definition. - Theories of child psychology. - Psychological development of children with age. - Principles of psychological growth & development while managing child patient. - Dental fear and its management. - Factors affecting child's reaction to dental treatment - Emotional development of children	4
10.	BEHAVIOUR MANAGEMENT: - Definitions. - Types of behaviour encountered in the dental clinic. - Non-pharmacological & pharmacological methods of Behaviour Management - Behaviour shaping and modification	5
11.	PEDIATRIC OPERATIVE DENTISTRY: - Principles of Pediatric Operative Dentistry. - Modifications required for cavity preparation in primary and young permanent teeth. - Various Isolation Techniques	2
	- Restorations of decayed primary, young permanent and permanent teeth in children using various restorative materials like - Glass Ionomer, Composites & Silver Amalgam. - Stainless steel, Polycarbonate & Resin Crowns	3
12.	PEDIATRIC ENDODONTICS - Principles & Diagnosis. - Classification of Pulpal Pathology in primary, young permanent & permanent teeth.	

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	Management of pulp involved primary, young permanent & permanent teeth. Pulp capping – direct & indirect. - Pulpotomy - Pulpectomy - Apexogenesis - Apexification Obturation techniques & material used for primary, young permanent & Permanent teeth in children	4
13.	TRAUMATIC INJURIES IN CHILDREN: - Classifications & Importance. - Sequelae & reaction of teeth to trauma. - Management of Traumatized teeth	5
14.	PREVENTIVE & INTERCEPTIVE ORTHODONTICS: - Definitions. - Problems encountered during primary and mixed dentition phases & their management. - Mixed dentition analysis - Malocclusion and management - Serial extractions. - Space management	4
15.	ORAL HABITS IN CHILDREN: - Definition, Aetiology & Classification. - Clinical features of digit sucking, tongue thrusting, mouth breathing & various other secondary habits. - Management of oral habits in children.	4

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16.	DENTAL CARE OF CHILDREN WITH SPECIAL NEEDS: Definition, Aetiology, Classification, Behavioural and Clinical features & Management of children with: - Physically handicapping conditions. - Mentally compromising conditions. - Medically compromising conditions. - Genetic disorders.	5
17.	CONGENITAL ABNORMALITIES IN CHILDREN: Definition, Classification, Clinical features & Management	1
18.	DENTAL EMERGENCIES IN CHILDREN & THEIR MANAGEMENT Drugs used in pediatric dentistry	1
19.	DENTAL MATERIALS USED IN PEDIATRIC DENTISTRY	1

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20.	PREVENTIVE DENTISTRY: - Definition. - Principles & Scope. - Types of prevention. - Different preventive measures used in pediatric Dentistry including pit and fissure sealants and caries vaccine - Preventive Resin Restoration and ART, MID	3
21.	DENTAL HEALTH EDUCATION & SCHOOL DENTAL HEALTH PROGRAMMES	1
22.	FLUORIDES: - Historical background. - Systemic & Topical fluorides. - Mechanism of action. - Toxicity & Management. - Defluoridation techniques	4
23.	CASE HISTORY RECORDING: - Outline of principles of examination, diagnosis & treatment planning - Child abuse and neglect	1
24.	SETTING UP OF PEDODONTIC CLINIC.	0.5
25.	ETHICS	0.5

Total – 65 HOURS

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PRACTICALS

1.	Restorations – Class I & II only	45
2.	Preventive measures e.g. Oral Prophylaxis	20
3.	Fluoride applications	10
4.	Extractions with or without LA	10
5.	Case History Recording & Treatment Planning	20
6.	Education & motivation of the patients using disclosing agents. Educating patients about oral hygiene/ Plaque control measures (tooth brushing, flossing etc). Diet counseling Parent education	10

Total -170

HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

GOAL

Undergraduate programme in Orthodontics is designed to enable the qualifying dental surgeon to diagnose, analyze and treat common orthodontic problems by preventive, interceptive and corrective orthodontic procedures

SCHEME OF STUDY

The undergraduate study of orthodontics spans over second year, third year and fourth year. In second year the emphasis is given for basic and preclinical wire bending exercises and appliance fabrication. In third year the student has to undergo clinical

postings where patient care and appliance management is emphasized. In fourth year of study the candidate will be allotted with long cases for detailed discussion treatment plan formulation appliance construction, insertion and management. In addition they will be trained to attend routine out patients, appliance activation, cephalometric interpretation etc.

a) SKILLS

i. To diagnose a case of malocclusion and formulate a treatment plan

ii. To make a good alginate impression

iii. To fabricate a good study model

iv. To perform various model analysis and cephalometric analysis

v. To construct routine removable and myofunctional appliances using cold cure acrylic

vi. Insertion and management of appliance

b) INTEGRATION

By learning the science of Orthodontics, the student should be able to diagnose different types of malocclusion, develop a treatment plan and manage simple malocclusions. The student should acquire skills to recognize Complex malocclusions and the same may be referred to a specialist.

This insight is gained in a variety of ways:

i. Pre clinical training

ii. Lectures & small group teaching

iii. Demonstrations

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iv. Spot diagnosis and discussions

v. Long case discussions

vi. Seminar presentations

c) AN OUTLINE OF THE COURSE CONTENT:

Study of clinical Orthodontics to enable the student to understand the science and art of orthodontics

THEORY

1.	Introduction Growth And Development: In General - Definition - Growth spurts and Differential growth - Factors influencing growth and Development - Methods of measuring growth - Growth theories (Genetic, Sicher's, Scott's, Moss's, Petrovics, Multifactorial) - Genetic and epigenetic factors in growth - Cephalocaudal gradient in growth. Morphologic development of craniofacial structures - Methods of bone growth - Prenatal growth of craniofacial structures - Postnatal growth and development of: cranial base, maxilla, mandible, dental arches and occlusion. Functional development of dental arches and occlusion	2

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2.	Malocclusion - In General - Concept of normal occlusion - Definition of malocclusion - Description of different types of dental, skeletal and functional malocclusion Classification of Malocclusion - Principle - Description - Advantages and disadvantages of classification of malocclusion by a) Angle's b) Simon's c) Lischer's d) Ackerman and Proffitt's	2
3.	Normal And Abnormal Function Of Stomatognathic System	2
4.	Aetiology of Malocclusion Definition, importance, classification, local and general etiological factors. Etiology of following different types of malocclusion: a) Midline diastema b) Spacing c) Crowding d) Cross-Bite: Anterior/Posterior e) Class III Malocclusion f) Class II Malocclusion g) Deep Bite h) Open bite	2

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5.	Diagnosis And Diagnostic Aids - Definition - Importance - Classification of diagnostic aids Importance of case history and clinical examination in orthodontics - Study Models - Importance and uses - Preparation and preservation of study models. Importance of intraoral X-rays in orthodontics a) Panoramic radiographs - Principles - Advantages, disadvantages - Uses b) Cephalometrics - Advantages, disadvantages - Definition - Description and use of cephalostat - Description and uses of anatomical landmarks lines and - angles used in cephalometric analysis c) Analysis - Steiner's - Down's - Tweed's - Ricket's-E- line d) Electromyography and its uses in orthodontics e) Wrist X-rays and its importance in orthodontics	5
6.	General Principles In Orthodontic Treatment Planning of Dental And Skeletal Malocclusions	1.5
7.	Anchorage in Orthodontics - Definition - Classification - Types and Stability Of Anchorage	1

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8.	Biomechanical principles in orthodontic tooth movement - Different types of tooth movements - Tissue response to orthodontic force application - Age factor in orthodontic tooth movement	2
9.	Preventive Orthodontics a) Definition b) Different procedures undertaken in preventive orthodontics and their limitations	3
10.	Interceptive Orthodontics a) Definition b) Different procedures undertaken in interceptive orthodontics c) Serial extractions: Definition, indications,contra-indication, technique, advantages and disadvantages. d) Role of muscle exercises as an interceptive procedure	5
11.	Corrective Orthodontics Definition, factors to be considered during treatment planning. Model analysis: a) Pont's b) Ashley Howe's c) Bolton, d) Careys e) Moyer's Mixed Dentition Analysis Methods of gaining space in the arch:- Indications, relative merits and demerits of - Proximal stripping, - Arch expansion - Extractions in orthdodontics - indications and selection of teeth for extraction.	4

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12.	Orthodontic Appliances: General - Requisites for orthodontic appliances - Classification, indications of Removable and Functional Appliances - Methods of force application Materials used in construction of various orthodontic appliances – - uses of stainless steel - technical considerations in curing of acrylic, - Principles of welding and soldering, fluxes and antifluxes. - Preliminary knowledge of acid etching and direct bonding.	3
13	Genetics	1
14	Ethics	0.5
15.	REMOVABLE ORTHODONTIC APPLIANCES - Components of removable appliances - Different types of clasps and their uses - Different types of labial bows and their uses - Different types of springs and their uses Expansion appliances in orthodontics: a) Principles b) Indications for arch expansion c) Description of expansion appliances and different types of expansion devices and their uses. d) Rapid maxillary expansion	4
16.	FIXED ORTHODONTIC APPLIANCES - Definition, Indications & Contraindications - Component parts and their uses - Basic principles of different techniques: - Edgewise - Begg's - Straight wire.	2

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17.	EXTRAORAL APPLIANCES a) Headgears b) Chin cup c) Reverse pull headgears	1
18.	MYOFUNCTIONAL APPLIANCES Definition and principles Muscle exercises and their uses in orthodontics Functional appliances: - Activator, Oral screens, Frankels function regulator, bionator twin blocks, lip bumper -Inclined planes upper and lower	5
19.	Orthodontic Management Of Cleft Lip And Palate	1
20.	Principles Of Surgical Orthodontics Brief knowledge of correction of: - Mandibular Prognathism and Retrognathism - Maxillary Prognathism and Retrognathism - Anterior open bite and deep bite - Cross bite	2
21.	Principle, Differential Diagnosis & Methods of Treatment of: - Midline diastema - Cross bite - Open bite - Deep bite - Spacing - Crowding - Class II - Division 1, Division 2 - Class III Malocclusion - True and Psuedo Class III	5.5

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22.	Retention And Relapse - Definition - Need for retention - Causes of relapse - Methods of retention - Different types of retention devices - Duration of retention - Theories of retention	2

Total -50 HOURS

PRACTICALS

S.NO	TOPICS	HOURS
1	Basic wire bending exercises Gauge 22 or 0.7mm - Straightening of wires - Bending of a equilateral triangle - Bending of a rectangle - Bending of a square - Bending of a circle - Bending of U.V	5
2	Construction of Clasps (Both sides upper/lower) Gauge 22 or 0.7mm - 3/4 Clasp (C-Clasp) - Full Clasp (Jackson's Crib) - Adam's Clasp - Triangular Clasp	35
3	Construction of Springs (on upper both sides) Gauge 24 or 0.5mm - Finger Spring - Single Cantelever Spring	35

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4	Construction of Canine retractors Gauge 23 or 0.6mm a) U - Loop canine retractor (Both sides on upper & lower) b) Helical canine retractor (Both sides on upper & lower) c) Buccal canine retractor:Self supported buccal canine retractor with Sleeve - 5mm wire or 24 gauge Sleeve - 19 gauge needle on any one side. d) Palatal canine retractor on upper both sides -Gauge 23 or 0.6mm	10
5	Labial Bow Gauge 22 or 0.7mm	5
6	Taking upper Alginate impression Taking lower Alginate impression Study Model preparation Model Analysis - Pont's Analysis - Ashley Howe's Analysis - Carey's Analysis - Bolton's Analysis Moyer's Mixed Dentition Analysis	20

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7	Case History taking Impression taking Case discussion Discussion on the given topic Cephalometric tracings - Down's Analysis - Steiner's Analysis - Tweed's Analysis	20
8	- Adam's Clasp on Anterior teeth Gauge 0.7mm - Modified Adam's Clasp on upper arch Gauge 0.7mm - High Labial bow with Apron spring on upper arch (Gauge of Labial bow - 0.9mm, Apron spring - 0.3mm) - Coffin spring on upper arch Gauge 1mm	20
9	Appliance Construction in Acrylic - Upper & Lower Hawley's Appliance - Upper Hawley's with Anterior bite plane - Upper Habit breaking Appliance - Upper Hawley's with Posterior bite plane with `Z' Spring - Construction of Activator - Lower inclined plane/Catalan's Appliance - Upper Expansion plate with Expansion Screw	20

Total – 170 HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

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PERIODONTOLOGY

THEORY

1.	Introduction : Definition of periodontics Scope and applicability of the subject. Historical background of periodontology Development of periodontal tissues: Micro-structural anatomy and biology of periodontal tissues in detail - Gingiva - Junctional epithelium in detail - Epithelial-Mesenchymal interaction, - Periodontal ligament - Cementum - Alveolar bone	1.5
2.	Defensive mechanisms in the oral cavity: - Role of Epithelium - Gingival fluid - Saliva and other defensive mechanisms in the oral environment	2
3.	Age changes in teeth and periodontal structures and their association with periodontal diseases and their significance in Geriatric dentistry	1

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4.	Maintenance of Health – Preventive Periodontology - Oral physiotherapy aids - Role and scope of oral physiotherapy measures - Patient education- Oral hygiene instructions - Periodic check - OHI index	2
5.	Classification of periodontal diseases: - Need for classification, - Scientific basis of classification, - Classification of gingival and periodontal diseases as described in World Workshop 1989	1
6.	Epidemiology of periodontal diseases - Definition of index, incidence, prevalence,epidemiology, endemic, epidemic, and pandemic - Classification of indices (Irreversible and reversible), - Deficiencies of earlier indices used in Periodontics, - Detailed understanding of Silness & Loe Plaque Index, Loe & Silness Gingival Index, - CPITN &CPL, - Prevalence of periodontal diseases in India and other countries. - Public health significance (All these topics are covered at length under community dentistry. Hence, the topics maybe discussed briefly. However, questions may be asked from the topics for examination)	3

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7.	GINGIVITIS Localized Gingivitis Generalized gingivitis, Papillary Marginal and diffuse gingivitis Aetiology, Pathogenesis, Clinical signs, Symptoms and Management of: a) Plaque associated gingivitis b) Systemically aggravated gingivitis (sex hormones, drugs and systemic diseases) c) ANUG d) Desquamative gingivitis-Gingivitis associated with Lichen Planus, Pemphigoid, Pemphigus, and other Vesiculobullous lesions Other forms of gingivitis as in e) Nutritional deficiency f) Allergic gingivitis g) Infective gingivitis: - Herpetic,Bacterial and Candidal h) Pericoronitis i) Gingival enlargement (classification and differential diagnosis Stages in Gingivitis - Initial, - Early - Established - Advanced	4 3
8	Sequelae of Periodontal disease: Extension of inflammation from gingival area to the deeper periodontal structures Plaque- Calclus -Gingival inflammation – Pocket- Recession- Furcation involvement- tooth mobility Extension of inflammation from Gingiva Mechanism of spread of inflammation from gingival area to deeper periodontal structures	6

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8.	Factors that influence the spread of infection POCKET - Definition,Types - signs and symptoms - classification - Root surface changes and contents of the pocket	2
	Aetiology a)Dental Plaque (Biofilm) - Definition, - New concept of Biofilm - Types, composition - Bacterial colonization - Growth, maturation &disclosing agents - Role of dental plaque in periodontal diseases, - Plaque microorganisms in detail and bacteria associated with periodontal diseases - Plaque retentive factors - Materia alba, Food debris,crowding of teeth	2
	b)Calculus - Definition - Types, composition, attachment, - Theories of formation, - Role of calculus in disease	2
	c)Food Impaction - Definition - Types, Etiology - Hirschfield's classification - Signs, symptoms - Sequelae of treatment	0.5
	d)Trauma from occlusion - Definition, Types - Alignment – occlusal equilibrium - Temperomandibular joint disturbances - Role in periodontal disease - Histopathological changes - Measures of management	2

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	e)Habits - Their periodontal significance - Bruxism & Parafunctional habits - Tongue thrusting - Lip biting - Occupational habits	1
	f)Latrogenic factors Conservative Dentistry:- - Restorations - Contact point, - Marginal ridge, - Surface roughness - Overhanging restorations - Interface between restoration and teeth	1
	Prosthodontics:- - Interrelationship - Bridges and other prosthesis, - Pontics(types) - Surface contour - Relationships of margins to the periodontium - Gingival protection theory, muscle action theory& theory of access to oral hygiene.	1
	Orthodontics:- - Interrelationship - Removable appliances & fixed appliances - Retention of plaque - Bacterial changes - Malocclusion Malpractice	1
	f)Systemic diseases - Diabetes - Sex hormones - Nutrition (Vit.C & proteins) - AIDS &periodontium, - Hemorrhagic diseases - Leukemia - Clotting factor disorders,	3

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9.	- PMN disorder - Risk factors for periodontal diseases Smoking/ tobacco, diabetes - pregnancy, medications, stress. socio- economic status Host response: Mechanism of initiation and progression of periodontal diseases - Basic concepts about cells - Mast cells - Neutrophils - Macrophages - Lymphocytes Immunoglobulins - Complement system - Immune mechanisms & cytokines in brief	2 1 . 5
10.	Periodontal disease activity - Continuous paradigm, - Random burst - Asynchronous multiple burst hypothesis	1
11.	PERIODONTITIS: a) Rapidly progressive Periodontitis b) Localised aggressive and generalized aggressive periodontitis c) Periodontitis associated with systemic diseases , d) Prepubertal Periodontitis RefractoryPeriodontitis Periodontal Abscess: definition, classification, pathogenesis, differential diagnosis and treatment Furcation involvement : Glickman's classification, prognosis and management	2

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12.	Diagnosis a) Routine screening procedures b) Basic Periodontal Examination c) Detailed 6 point pocket charting d) Methods of probing, 2 types of probes, (According to case history) Radiography a) Different types and indications b) Uses and limitations. Other advanced diagnostic aids Haematological, pathological,microbiologicalinvestigations Prognosis: - Definition - Types - Purpose and factors to be taken into consideration	2 2
13.	Treatment planning - Factors to be considered - Phases - Rationale	2

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Periodontal Therapy		
14.	General principles of periodontal therapy Phase I, II, III, IV therapy. Definitions : - Periodontal regeneration - Repair - New attachment and Reattachment	1 . 5
15.	Plaque control a)Mechanical : - Tooth brushes – Different types - Interdental cleaning aids – Interdental brushes, Dental Floss etc - Dentifrices b)Chemical: - Classification and mechanism of action of each - Pocket irrigation - Mouth rinses – types	2

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16.	Pocket eradication procedures a)Scaling and root planing: - Indications - Aims & objectives - Healing following rootplaning, - Hand instruments, sonic, ultrasonic & Piezo-electric Scalers b) Curettage: - Definition - Indications, - Present concepts - Aims &objectives - Procedures - Healing response c)Flap surgery: - Definition - Types of flaps - Design of flaps	4
	- Papilla preservation - Indications & contraindications - Armamentarium, - Surgical procedure - Healing response d) Osseous Surgery: - Osseous defects in periodontal disease - Definition, Classification, contraindications - Surgery: resective, additive osseous surgery - osseous grafts with classification of grafts - Healing responses - Other regenerative procedures; root conditioning - Guided tissue regeneration	2 2

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17.	Mucogingival surgery /periodontal plastic surgery: - Definitions - Mucogingival problems - Aetiology, - Classification of gingival recession (P.D.Miller Jr. and Sullivan and Atkins), Indications, objectives - Gingival extension procedures - Lateral Pedicle Graft - Frenectomy, Frenotomy - Crown lengthening procedures - Periodontal microsurgery in brief	4
18.	Splints - Periodontal splints - Purpose & classification	1
19.	Implants: - Definition &Types - Scope & Biomaterials used Periodontal considerations: such as - Implant-bone interface - Implant-Gingiva interface - Implant failure - Peri-implantitis &management	2

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20.	Maintenance phase (SPT): Aims, objectives, and principles Importance Procedures Periodic recall for assessment/Examination of: Plaque and gingival indices - Calculus - Attachment Level	2
	- Pocket depth - Bleeding on probing - Recession - Mobility changes - Occlusal changes - Dental caries - Restorative and prosthetic status - Medical history changes - Oral pathological examination - Radiographic examination Maintenance of Implants	2
21.	Hypersensitivity - Causes - Theories & Management	1

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22.	Pharmacotherapy: - Periodontal dressings - Antibiotics & anti-inflammatory drugs - Local drug delivery systems	1
23.	Periodontal management of medically compromised patients Systemic effects of periodontal diseases in brief: - Cardiovascular diseases - Low birth weight babies	1.5
24.	Inter-disciplinary care: - Pulpo-Periodontal involvement, - Routes of spread of infection - Simons classification - Management	1
25.	Infection control protocol Sterilization various other aseptic procedures Ethics	2

Total – 80 HOURS

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PRACTICALS

S.NO	TOPICS	HOURS
1.	a) Infection control and sterilization b) Periodontal instruments c) Chair position and principles of instrumentation d) Maintenance of instruments (sharpening) e) Ultrasonic, Piezoelectric and sonic scaling - demonstration of technique f) Radiographic interpretation and lab investigations g) History taking and clinical examination of the patients h) Recording different indices i) Methods of using various scaling and surgical instruments j) Polishing the teeth	Demo 5 hours
	k) Bacterial smear taking l) Demonstration to patients about different oral hygiene aids m) Surgical procedures- gingivectomy, gingivoplasty, and flap operations n) Follow up procedures, post operative care and supervision	
2.	History taking and clinical examination of the patients Detailed recording different indices	15 HOURS
3.	Chair side patient education Demonstration of different Oral Hygiene aids : a) Diet advice b) Brushing techniques c) Frequency of brushing d) How to use interdental brushes and dental floss. e) Tooth pastes f) Mouth rinses	15 HOURS
4.	Diagnosis, treatment planning, discussion and total periodontal treatment	10
5.	Radiographic interpretation and lab investigations	10

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6.	Scaling using hand instruments	30
7.	Scaling and polishing using ultrasonic instruments	40
8.	Sub gingival Scaling and Root Planing	25
9.	Local drug delivery and SPT	20

Total – 170 HOURS

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PROSTHODONTICS AND CROWN & BRIDGE

THEORY

	COMPLETE DENTURES	
1.	Introduction and scope Applied Anatomy and Physiology - Introduction - Biomechanics of the edentulous state - Residual ridge resorption	2
2.	Communicating with the patient Understanding the patients 1.Mental attitude 2.Instructing the patient	1.5
3.	Examination, Diagnosis & Treatment planning - With some teeth remaining - With no teeth remaining - Systemic status - Local factor - The geriatric patient - Diagnostic procedures	3
4.	Improving the patient's denture foundation and ridge relation –an overview. - Pre-operative examination - Initial hard tissue & soft tissue procedure - Secondary hard & soft tissue procedure - Implant procedure - Congenital deformities - Postoperative procedure	2
5.	Principles of Retention, Support and Stability	2

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6.	Impressions - detail - Muscles of facial expression - Biologic considerations for maxillary andmandibular impression including anatomy landmark and their interpretation - Impression objectives - Impression materials - Impression techniques Maxillary and mandibular impression procedures - Preliminary impressions - Final impressions Laboratory procedures involved with impression making (Beading & Boxing, and cast preparation).	4
7.	Record bases and occlusion rims- in detail. - Materials & techniques. - Useful guidelines and ideal parameters. - Recording and transferring bases and occlusal rims.	2.5
8.	Articulators – Types, Uses, selection , Limitations	3

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9.	Biological consideration in Jaw relation & Jaw movements - Craniomandibular relations. - Mandibular movements. - Maxillo -mandibular relation including vertical and Horizontal jaw relations. - Concept of occlusion	6
10.	Relating the patient to the articulator – FACE BOWS - Face bow types & uses. - Face bow transfer procedure.	2
11.	Recording Maxillo Mandibular relation. - Vertical relations. - Centric relation records. - Eccentric relation records. - Lateral relation records.	5
12.	Tooth selection and arrangement. - Anterior teeth. - Posterior teeth. - Esthetic and functional harmony	2
13.	Relating inclination of teeth to concept of occlusion - Neutrocentric concept. - Balanced occlusal concept	3
14.	Trial dentures	1
15.	Laboratory procedures. - Wax contouring. - Investing of dentures. - Preparing of mould. - Preparing & packing acrylic resin. - Processing of dentures.	
	- Recovery of dentures. - Lab remount procedures. - Recovering the complete denture from the cast. - Finishing and polishing the complete denture. - Plaster cast for clinical denture remount procedure	4

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16.	Denture insertion. - Insertion procedures. - Clinical errors. - Correcting occlusal disharmony. - Selective grinding procedures	2
17.	Sequelae of ill fitting dentures Treating problems with associated denture use Treating abused tissues Relining and rebasing of dentures	2
18.	Immediate complete dentures construction procedure The single complete denture	2
19.	Overdentures	1
20.	Dental implants in complete denture General considerations in prosthodontic reconstruction & Bio mechanics, Prosthodontic components of the Branemark system as a role model	2
21.	Reduction of residual ridge	2
22.	REMOVABLE PARTIAL DENTURES	
23.	Introduction ,Terminologies and scope Classification.-kennedy's Examination, Diagnosis & Treatment planning & evaluation of diagnostic data.	2
24.	Components of a removable partial denture - Major connectors - Minor connectors - Rest and rest seats - Direct retainers - Indirect retainers - Tooth replacement	4
25.	Principles of Removable Partial Denture Design	2.5

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26.	Survey and design - Surveyors. - Surveying. - Designing	2
27.	Mouth preparation and master cast.	2
28.	Impression materials and procedures for removable partial dentures	2
29.	Designs of removable practical dentures & its associated problems	2
30.	Preliminary jaw relation record	1
31.	Fabrication of cast metal frame work – Lab procedures Selection and arrangement of teeth Fitting the framework Try in of the partial denture Completion of the partial denture Inserting the Removable partial denture Post insertion observations	2
32.	Temporary Acrylic Partial Dentures Immediate Removable Partial Denture Removable partial Dentures opposing Complete denture Maintenance of partial dentures	2
33.	FIXED PARTIAL DENTURES - ELEMENTS OF CROWN AND BRIDGE PROSTHESIS	
34.	Introduction and Definitions Fundamentals of occlusion Articulators	2
35.	Indications and contraindications of FPDs	1.5
36.	Treatment planning for single tooth restorations Treatment planning for the replacement of missing teeth including selection and choice of abutment teeth.	2
37.	Fixed partial denture configurations.	2
38.	Principles of tooth preparations Preparations for full veneer crowns Preparations for partial veneer crowns	4

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39.	Indications contra indications and procedures of preparation of abutment teeth for receiving various types of retainers	
40.	Temporary protection of prepared tooth -Provisional Restorations	
41.	Gingival retraction –moisture control -Soft Tissue	1
42.	Impressions – types, techniques	2
43.	Construction of dyes and working models direct and indirect Technique	2
44.	Wax Patterns	1
45.	a) Technique of fabrication of retainers b) Selection and Fabrication of Pontics – Indications contraindications of each types c) Connectors, stress breakers and assembly of fixed bridges	2
46.	Aesthetic considerations	2
47.	Finishing and cementation Maintenance of crown and bridges	2
48.	All - Ceramic Restorations Metal - Ceramic Restorations	2
49.	Preparations of intracoronal restorations. Preparations for extensively damaged teeth. Preparations for periodontally weakened teeth	2
50.	Functionally Generated Path Technique Investing and Casting Resin - Bonded Fixed Partials Denture	2
51.	MAXILLOFACIAL PROSTHESIS: - Splints - Obturators - Carriers	2

Total – 110HOURS

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PRACTICALS

1.	Acrylic RPDs insertion of min. 15 RPDs (impression taking wax prep, recording of jaw relation - shade	Perform 270 (technique + Clinical)
2.	Complete Dentures - insertion of min. 5 CDs (impression taking , wax prep, facebow transfer,articulating,teeth setting, try in, lab	
3.	Cast RPDs- 5 nos Diagnosis, Designing, Insertion	50(technique +clinical)
4.	FPD – 3 nos Tooth preparation, Impression, temporary, final cementing	30
5.	Dental implants Maxillofacial prosthesis	Assist/observe 15
6.	Seminar presentations – 2 nos Demonstrations	5

Total – 370 HOURS

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CONSERVATIVE DENTISTRY AND ENDODONTICS

a) OBJECTIVES:

i. Knowledge and Understanding:

The graduate should acquire the following knowledge during the period of training,

(1) To diagnose and treat simple restorative work for teeth.

(2) To gain knowledge about aesthetic restorative material and to translate the same to patients needs.

(3) To gain the knowledge about endodontic treatment on the basis of scientific foundation.

(4) To carry out simple endodontic treatment.

(5) To carry out simple luxation of tooth and its treatment and to provide emergency endodontic treatment.

ii. Skills:

He should attain following skills necessary for practice of dentistry

(1) To use medium and high speed hand pieces to carry out restorative work.

(2) Poses the skills to use and familiarize endodontic instruments and materials needed for carrying out simple endodontic treatment.

(3) To achieve the skills to translate patients esthetic needs along with function.

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iii. Attitudes:

(1) Maintain a high standard of professional ethics &conduct and apply these in all aspects of professional life.

(2) Willingness to participate in CDE programme to update the knowledge and professional skill from time to time.

(3) To help and participate in the implementation of the national oral health policy.

(4) He should be able to motivate the patient for proper dental treatment and maintenance of oral hygiene should be emphasise which will help to maintain the restorative work and prevent future damage.

THEORY

S.NO	TOPICS	HOURS
1.	Introduction to Conservative Dentistry. Definition, Aim &Scope of Conservative Dentistry & Endodontics.	2
2.	Nomenclature of Dentition: Tooth numbering systems : - A.D.A. - Zsigmondy - Palmer F.D.I. systems	2
3.	Principles Of cavity Preparation : - Steps and nomenclature of cavity preparation - Classification of cavities - Nomenclature of floors - Angles of cavities.	2

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4.	Dental Caries: - Aetiology - Classification, clinical features, morphological features - Microscopic features - Clinical diagnosis and sequel of dental caries.	3
5.	Treatment Planning For Operative Dentistry: - Detailed clinical examination - Radiographic examination - Tooth vitality tests - Diagnosis - Preparation of the case sheet - Charting - Treatment planning	3
6.	Gnathological Concepts Of Restoration: - Physiology of occlusion - Normal occlusion - Ideal occlusion - Mandibular movements and occlusal analysis - Occlusal rehabilitation and restoration	2
7.	Armamentarium For Cavity Preparation: General classification of operative instruments - Hand cutting instruments : - Terminology and classification - Design formula and sharpening of instruments. - Grasp Rest and application	3

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	Rotary cutting instruments : - Dental burs - Common design characteristics - Diamondand other abrasive instruments - Mechanism of cutting, - Evaluation of hand piece and speed - Hazards and precautions - Current concepts of rotary cutting procedures. Sterilisation and maintenance of instruments. Basic instrument tray setup.	
8.	Isolation of Operating Field Purpose and methods of isolation Control of moisture - Rubberdam - Cotton rolls - Anti sialogagues	2
9.	Infection Control - Routes of transmission of dental infection - Personal barrier protection - Control of infection from aerosol, splatter - Sterilization procedures for dental equipment and instruments, monitoring sterilization, disinfection of operatory - Dental waterline contamination and Biofilm - Disposal of waste	2

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10.	Amalgam Restoration : - Indication contraindication, - Physical and mechanical properties , - clinical behavior. - Cavity preparation for Class I,II,V andIII. - Step wise procedure for cavity preparation and restoration. - Including modified designs. - Bonded amalgam, - Failure of amalgam restoration	3
11.	Contacts and contour - Tooth separation - Matrices, retainers and wedges -types - Methods of wedging	2
12.	Pulp Protection : Liners, varnishes and bases, - Zincphosphate, - zincpolycarboxylate, - zincoxide eugenol and - Glass inomer cements.	3

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	Affected and Infected dentin. Caries detector dyes Concepts of Remaining Dentin Thickness	
13.	Anterior Restorations : - Selection of cases - Selection of material, - Step wise procedures for using restorations - Silicate glass ionomers, composites including sand which restorations - Bevels of the same with a note on status of the dentine bonding agents.	2
14.	Direct Filling Gold Restorations : - Types of direct filling gold indications - Limitations of cohesive gold. - Annealing of gold foil - Tooth preparation - Condensation of gold foils.	2
15.	Temporisation or Interim Restoration Materials and procedure	2
16.	Pin Amalgam Restoration - Indication Contra Indication - Advantages disadvantages of each types of pin - Methods of placement - Use of auto matrix. - Failure of pin amalgam restoration.	3
17.	Management Of Deep Carious Lesions - Technique of caries excavation – Hand and rotary - Indirect And Direct Pulp Capping. - Pulpotomy	3

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18.	Root Caries Etiology, clinical features and management	3
19.	Non Carious Destruction of Tooth Structures Diagnosis and Clinical Management	2
20.	Hypersensitivity - Dentine hypersensitivity and its management - Theories of hypersensitivity	2
21.	Cast Restorations - Indications &contraindications - Advantages and disadvantages - Materials used - Class II and Class I cavity preparation for inlays - Fabrication of wax pattern - Spurring inverting and - Casting procedures - Cementation of restoration - Casting defects	3
22.	Die Materials and preparation of Dies.	
	Gingival Tissue Management for cast restoration and impression Procedures of Gingival retraction	
	Recent Cavity Modification Amalgam Restoration Differences between Amalgam and Inlay cavity preparation	
	Noteon all the types of Bewels used for Cast Restoration	3
23.	Control Of Pain During Operative Procedures. Methods, drugs used, Local anaesthesia	2

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24.	Prevention of damage of hard and soft tissues during operative procedures	2
25.	Applied Dental Materials Biological Considerations. Evaluation Clinical application and adverse effects of the following materials: Dental cements - Zincoxide euginol cements - Zincphosphate cements, - Polycarboxylates - Glass ionomer cements, - Silicate cement - Calcium hydroxides - Varnishes Dental amalgam Technical considerations Mercury toxicity Mercury hygiene– Amalgam disposal. Composites Dentine bonding agents Classification and recent development in dentin bonding systems components of dentin bonding agent's critical steps in dentin bonding.	7 4
26.	Aesthetic Dentistry - Introduction and scope - Anatomy and physiology of smile - Role of colour and translucency - Aesthetic recontouring - Alteration of tooth form shape, size and colour	3

27.	Composite restorations - Composition - Classification - Properties - Recent advances in composite resins - Indications &contraindications, - Advantages, disadvantages - Step wise procedures of tooth preparation for composite restorations. - Clinical technique for posterior direct composite restorations - Finishing and polishing of composite restoration - Indirect posterior composite restoration	3
28.	Ceramic Restorations - Recent advances in ceramic - Ceramic laminates, inlays, onlays and crowns - Indications, contraindications - Advantages, disadvantages - Techniques .	2
	Financial management of practice, Dental material and basic equipment management	

ENDODONTICS		
29.	- Introduction definition scope and future of Endodontics - Clinical diagnostic methods - Case history - Diagnosis - Treatment plan	2
30	Microbiology of endodontic infection Pulpal diseases: - Causes - Types –acute pulpitis, chronic pulpitis, pulp polyp - Investigations and diagnosis Treatment	4
31	Periapical diseases: - Acute periapical abscess - Acute periodontal abscess - Phoenix abscess - Chronic alveolar abscess - Granuloma - Cysts - Condensing osteits - External resorption. Investigations, Diagnosis, Treatment	

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32.	Vital pulp therapy: - Indirect and direct pulp capping - Pulpotomy-different types and medicaments used. - Apexogenisis and apexification or problems of open apex.	2
33.	Principles of root canal treatment - Rationale of endodontic treatment case selection - Indication and contraindications for root canal treatments Root canal instruments: - hand instruments - Power driven instruments, - standardisation - colour coding principle of using endodontic instruments. Isolation and infection control in Endodontics - Mouth preparation - Sterilisation of root canal instruments and materials - Rubberdam application.	3
34.	Anatomy of the pulp cavity: - Root canals - Apical foramen - Anomalies of pulp cavities access	1

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35.	Access preparation - Objectives - Principles - Instruments used - Sequential steps of access preparation for individual tooth	1
36.	Preparation of root canal space - Determination of working length, - Methods of determining working length Cleaning and shaping of root canals - Objectives - Instrument used –hand and rotary - Techniques –Step back ,Crown down and conventional methods Irrigating solution - Functions - Types - Methods and techniques of irrigation Chemical aids to instrumentation	3

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37.	Disinfection of root canal space: Intracanal medicaments - Functions - Requirements - Types - Method of placement and limitations Polyantibiotic paste Mummifying agents.	1
38.	Problems during cleaning and shaping of root canal spaces. - Perforation and its management. - Broken instruments and its management, - Management of single and double curved root canals. Smear layer and its importance in Endodontics and conservative treatment.	1
39.	Obturation of the root canal system - Materials used - Requirements of an ideal root canal filling material - Obturation methods using guttapercha - Classification and procedure Root canal sealers. - Ideal properties classification. - Manipulation of root canal sealers.	1
40.	Post - Endodontic restoration - Principles of post -endodontic restorations - Post and core-materials - Fabrication - Components of post core preparation	1
41.	Discoloured teeth and its management. - Intrinsic and extrinsic discolouration - Bleaching agents - Vitaland non vital bleaching - Methods	1

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42.	Traumatised teeth - Classification of fractured teeth. - Management of fractured tooth and root. - Luxated teeth and its management.	2
43.	Endodontic surgeries - Indication contraindications, - Preoperative preparation. - Premedication - Surgical instruments and techniques - Apicectomy, - Retrogradefilling, - Post operative sequale - Trephination, hemisection, radiscetomy - Techniques of tooth reimplantation (both intentional and accidental) - Endodontic implants.	3
44.	Root resorption Etiology and management	1
45.	Outcomeof root canal treatment - Success and failures of endodontic treatments - Bacteriological examinations - Culture methods. - Retreatmentin Endodontics	2
46.	Emergency endodontic procedures. Lasers in conservative endodontics practice management.	1

Total – 110 HOURS

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PRACTICALS

S. NO	TOPICS	Min no	Hours
1.	Caries risk assessment	10 cases	20
2.	Radiographic assessment	Perform	30
3.	Vitality tests	Perform	20
4.	Local anaesthesia administration	Perform	10
5.	Silver amalgam restorations class I, II	30 nos.	70
6.	Glass ionomer restorations class I,II,III,V	10 nos.	40
7.	Composite resinrestorations class IV,I,II,III,V	10 nos.	22
8.	Pit and fissuresealant and sealant restoration	10 nos.	25
9.	Pulp capping– direct and indirect	10 nos.	30
10.	Anterior root canal treatment	5 nos.	15
11.	Posterior root canal treatment	3 nos.	10
12.	Direct composite veneers	2 nos.	10
13.	Diastema closures	2 nos.	10
14.	Bleaching	2 nos.	10
15.	Periapical surgeries	Assist	5
16.	Post endodontic restorations	1 no.	10
17.	Splinting	Assist/ Observe	10
18.	Inlays and onlays	2 nos.	10

CHAIRSIDE DEMONSTRATIONS		
S.NO	**TOPICS**	**HOUR**
1.	Case history discussion Charting Dietary advice	1
2.	Vitality test	1
3.	Radiographic interpretations	1
4.	Rubberdam application	1
5.	Instruments and instrument set up	1
6.	Root canal sealer manipulation	1
7.	Matrixband and retainer application	1
8.	Demonstration of pit and fissuresealant , fissurotomy and flow able composite application in patients	1
9.	Step by step procedure of Anterior root canal therapy demonstration in natural tooth	1
10.	Patient communication skill	1
11.	Local anaesthesia techniques and other pain control measures	1
12.	Sterilization methods of endodontic and operative instruments	1
13.	Endodontic emergency management	1

Total– 370 HOURS

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

ORAL & MAXILLOFACIAL SURGERY

a) AIM

To produce a graduate who is competent in performing extraction of teeth and minor surgeries under both local and general anaesthesia, prevent and manage related complications, acquire knowledge regarding aseptic procedures, have reasonable understanding of management of infectious patients and prevention of cross infections, learn about BLS, acquire a reasonable knowledge and understanding of the various diseases, injuries, infections occurring in the Oral & Maxillofacial region and offer solutions to such of those common conditions and has an exposure in to the in-patient management of maxillofacial problems and also to acquire reasonable knowledge regarding the surgical principals involved in implant placement and be able to communicate properly and understand medico legal responsibilities

b) OBJECTIVES:

i. Knowledge & Understanding

At the end of the course and the clinical training the graduate is expected to –

(1) Able to apply the knowledge gained in the preclinical subjects and related medical subjects like general surgery and general medicine in the management of patients with oral surgical problem.

(2) Able to diagnose, manage and treat (understand the principles of treatment of) patients with oral surgical problems.

(3) Knowledge of range of surgical treatments.

(4) Ability to decide the requirement of a patient to have oral surgical specialist opinion or treatment.

(5) Understand the principles of in-patient management.

(6) Understand the principles of emergency management of maxillofacial injuries, BLS measures and the medico legal responsibilities and formalities.

(7) Understanding of the management of major oral surgical procedures and principles involved in patient management.

(8) Be able to decide the need for medical/ surgical consultations and the method of doing so.

(9) Should know ethical issues and have communication ability.

(10) Should know the common systemic and local diseases, drugs used and drug interactions

ii. Skills:

A graduate should have acquired the skill to:

(1) Examine any patient with an oral surgical problem in an orderly manner.

(2) Be able to understand requisition of various clinical and laboratory investigations and is capable of formulating differential diagnosis.

(3) Should be competent in the extraction of teeth under both local and general anesthesia.

(4) Should be able to carry out certain minor oral surgical procedures under L.A. simple impactions, draining of abscesses, simple dental wiring, biopsies etc.

(5) Ability to assess, prevent and manage various complications during and after surgery.

(6) Able to provide primarycare and manage medical emergencies in the dental office.

(7) Understanding of the management of major oral surgical problems and principles involved in inpatient management.

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(8) Should be competent in measures necessary for homeostasis and wound closures.

THEORY

1.	ANAESTHESIA Local Anaesthesia a) Introduction and Neurophysiology b) Concept of Local Anaesthesia c) Applied anatomy d) Classification of local anaesthetic agents e) Ideal requirements f) Mode of action g) Types of local anaesthesia h) Complications. i) Common local anaesthetic drugs in use - Properties - Indications and contra indications - Advantages and disadvantages of each local anaesthesia - Dosage j) Components of a standard local anaesthetic solution and the part played by each component. k) Use of Vasoconstrictors in local Anaesthetic solution - - Advantages - Contra-indications - Types of vasoconstrictors used. - l) Pre anaesthetics and Topical anaestheics	4

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2.	Techniques of Nerve block anaesthesia and Infiltration anaesthesia a) Anaesthesia of the mandible – - Pterygomandibular space - boundaries, contents etc. - Intra oral and extra oral techniques of Inferior Alveolar Nerve Block - Mandibular Nerve Block - Mental Nerve Block - Infiltrations b)Anaesthesia of Maxilla - - Intra - orbital nerve block. - Posterior superior alveolar nerve block - Maxillary nerve block - techniques. - Infiltrations Signs and symptoms of Local anaesthesia Complications of each techniques and their management	3
3.	GENERAL ANAESTHESIA a) Concept of general anaesthesia b) Commonly used anaesthetics c) Properties of commonly used general anaesthetic drugs d) Indications of general anaesthesia in dentistry Symptoms and signs of general anaesthesia Complications arising during the administration of General anaesthesia and their management.	2

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4.	Pre anaesthetic medication - Pre-anaesthetic preparation of patient and premeditation - Pre-anaesthetic evaluation of the patient for general anaesthesia - Advantages , disadvantages, indications and contraindications - Preanaesthetic Drugs Short venous anaesthesia I.V. Sedation with Diazepam and Midazolam - Indications - Contraindications - Mode of action - Technique	2
5.	ORAL SURGERY Definition, scope, aims and objectives. Diagnosis in oral surgery: History taking Clinical examination Investigations.	1
6.	Principles of Oral Surgery a)Asepsis: - Definition - Measures to prevent introduction of infection during Surgery. - Preparation of the patient - Measures to be taken by operator	3

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	Principles of infection control and cross-infection control wit particular reference to HIV/AIDS and Hepatitis - Sterilization of instruments - various methods of sterilization etc, - Principles and need for cleaning of infected/ used instruments prior to sterilization	
	b) Painless Surgery: - Pre- anaesthetic considerations - Pre-medication: purpose, drugs used - Anesthetic considerations - Local Anaesthetic	
	c) Access: Intra-oral: Mucoperiosteal flaps - Principles - Commonly used intra oral incisions. Bone Removal - Methods of bone removal. - Use of Burs - Advantages & precautions - Bone cutting instruments - Principles of using chisel & osteotome. Extra-oral Skin incisions Principles Extra- oral incision to expose facial skeleton. - Submandibular - Pre auricular Incision for TMJ - Access to maxilla & orbit - Bi coronal incision	2

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7.	a) Control of hemorrhage during surgery - Normal Haemostasis - Local measures available to control bleeding - Hypotensive anaesthesia etc. b) Drainage & Debridement - Purpose of drainage in surgical wounds - Types of drains used c)Debridement: - Purpose - Soft tissue & bone debridement. d)Closure of wounds - Types of wounds - Classification of wound healing e)Suturing - Principles - Suture material: - Classification - Ideal requirements - Body response - Resorbability of various materials etc. f) Post operative care - Post operative instructions - Physiology of cold and heat in the control of pain an swelling - Analgesics and anti-inflammatory drugs in the control of pain and swelling g) Control of infection - Antibiotics, principles of antibiotic therapy	4

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8.	EXODONTIA Objectives and General considerations Ideal Extraction. Indications for extraction of teeth Pre-operative assessment	2
9.	Methods of extraction a) Forceps or intra-alveolar or closed method. Principles, types of movement, force etc. b) Trans-alveolar,surgical or open method Indications, surgical procedure.	2
10.	Armamentarium - Types of Forceps - Uses of each one - Classification of elevators - Principles in the use of elevators - Commonly used elevators - Types and uses of scalpels - Grasp	1
11.	Complications of Exodontia - Complications during exodontia common to both maxilla and mandible. - Post-operative complications - Prevention and management of complications	2
12.	Extraction technique under general anaesthesia in the Dental	1

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13.	Impacted teeth Incidence, definition, etiology. a) Impacted mandibular third molar - Classification - Reasons for removal Assessment - both clinical & Radiological. - Armamentarium and surgical procedures for removal. - Complications during and after removal, its prevention and management. b) Impacted Maxillary third molar - Indications for removal - Classification - Armamentarium and surgical procedure for removal - Complications duringand after removal, its prevention and management. c) Impacted maxillary canine. - Reasons for canine impaction - Indications for removal - Methods of management - Localization - labial and palatal approaches, - Complications during and after removal, its prevention and management Surgical exposure	3

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14.	Neurological Diseases a) Trigeminal neuralgia – Definition, etiology, clinical features Methods of management including medical and surgical. b) Facial paralysis – c) Etiology, clinical features,Management d) Nerve injuries – Classification, clinical features and management, Nerve Grafting -Neuropathy etc	2
15.	Implants - Concept of osseointegration - History of implants their design & surface characteristics. - Knowledge of various types of implants, - Bone biology, Morphology - Classification of bone and its relevance to implant placement. - Bone augmentation materials. - Soft tissue considerations in implant dentistry. - Surgical procedure to place Implants	2
16.	Diseases of the maxillary sinus and surgical management. Surgical anatomy and development of the sinus. a)Sinusitis both acute and chronic - Surgical approach of sinus - Cald well-Luc procedure - Knowledge of FESS b)Removal of root from the sinus. c)Oro-antral fistula and communications- Aetiology, clinical features ,surgical methods for closure.	3

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17.	Cysts of the mouth and jaws - Definition &Classification - Pathogenesis - Clinical & Radiological features - Diagnosis FNAC Use of contrast media and histopathology. Management - Types of surgical procedures - Rationale of the techniques - Indications, Contraindications - Procedures, complications etc.	3
18.	Surgical aid to Orthodontics a)Basic forms of jaw deformities - Prognathism - Retrognathism - Open bite b) Reasons for correction c) Diagnosis and treatment planning d) Outline of surgical methods carried out on mandible and maxilla - Subapical body - Sagittal split osteotomy	

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19.	Pre-prosthetic Surgery Definition Classification of procedures a) Corrective procedures: - Alveoloplasty - Reduction of maxillary tuberosities - Frenectomies - Removal of tori. - Ridge extension or Sulcus extension procedures b) Ridge augmentation and reconstruction. - Indications - Use of bone grafts - Types of Grafts - Hydroxyapatite etc	2
20.	Surgical procedure in relation to Endodonic therapy (Apicectomy)	1
21.	Cleft Lip and Palate - Etiology of the clefts - Incidence - Classification - Role of dental surgeon/ maxillofacial surgeon in the cleft team. - Outline of the closure procedures	2

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22.	Infections of the Oral cavity Introduction - Surgical anatomy of the superficial and deep fasciae of head and neck - Factors responsible for infection - Pathogenecity - Virulence a) Dento-alveolar abscess – aetiology Clinical features and management. Spread of odontogenic infections through various facial spaces and its management b) Ludwig's angina - Definition - Aetiology - Clinical features - Management and complications c)Course of Odontogenic infections Fungal Infections of head and neck region - Candidiasis - Actinomycosis - Coccidiodmycosis - Rhinosporidosis Antifungal agents	
23.	Osteomyelitis of the jaws - Definition & Aetiology - Pre-disposing factors - Classification - Clinical features and Management	2 1

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24.	Carcinoma of the oral cavity a) Lymphatic Spread. b) TNM classification c) Staging d) Biopsy - Types - Filling of Histopathology request form - Surgical aspects of histopathological diagnosis e) A broad outline about different methods of management of oral carcinoma - Surgery - Radiation - Chemotherapy f) Role of dental surgeons in the prevention and early detection of oral cancer	
25.	Osteoradionecrosis - Definition - Aetiology - Theories - Pre-disposing factors - Classification - Clinical features and Management	2

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26.	Maxillofacial Traumatology - Emergency management in maxillofacial trauma - General considerations - Types of fractures - Aetiology - Clinical features - General principles of management. a) Mandibular fractures - Applied anatomy - Classification. - Diagnosis - Clinical and radiological features Management 1) Reduction - closed and open 2) Fixation and immobilization Methods 3) outline of rigid and semi-rigid internal fixation	3

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	b) Fractures of the condyle - Aetiology - Classification - Clinical features - Principles of management c) Fractures of the middle third of the face - Definition of the mid face, - Applied surgical anatomy, - Classification – LE FORT 1 LEFORT 11 LEFORT 111 - Clinical features and outline of management. d) Alveolar fractures Methods of management e) Fractures of the Zygomatic complex and orbit. - Classification - Clinical features - Indications for treatment, - Methods of reduction and fixation f) Faciomaxillary Injuries in Children Complications of fractures - Delayed union - Non-union - Malunion	5

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27.	Salivary gland diseases Surgical Anatomy of Minor and Major salivary glands Sialography, contrast media, procedure. a) Inflammatory conditions of the salivary glands Sialolithiasis- Sub mandibular duct and gland ,parotid duct and gland Clinical features, management, Intraoral and extra oral Sialolithotomy. b) Salivary fistulae, Sialocoele c) Autoimmune diseases of the salivary glands diagnosis - Management Common tumours of salivary glands like Pleomorphic adenoma including minor salivary glands.	2

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28.	Tumors of the Oral cavity - General considerations - Surgical principles a) Non odontogenic benign tumours occurring in oral cavity - Fibroma - Papilloma - Lipoma - Ossifying Fibroma - Myxoma etc. b) Odontogenic tumors: (both benign and malignant) Clinical features, Investigations, Radiological appearance Methods of management. - Ameloblastoma - Osteogenic tumours of the faciomaxillary region.	4

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29.	Disorders of T.M. Joint - Applied surgical anatomy of the joint - Development of the TMJ - Surgical approaches to TMJ - Radiological investigations a) Hypermobilty of TMJ; Dislocation, Subluxation Types, aetiology, clinical features and management. b) Hypomobility of TMJ; Classification Ankylosis - Definition, aetiology, clinical features and management c) Myo-facial pain dysfunction syndrome Aetiology, clinical features, management- Non surgical and surgical d) Internal derangement of the joint. e) Developmental disorders of joint – Hypoplasia, clinical features, management	2

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	f) Inflammatory Diseases of T.M. Joint Arthritis – clinical features, Investigations, Management	
30.	MEDICAL EMERGENCIES Primary care of medical emergencies in dental practice (Cardio vascular Respiratory Endocrine) Anaphylactic reaction Epilepsy Basic Life Support	2

Total – 78 HOURS

PRACTICALS

1.	Case history Taking:	5cases
2.	Dental extractions under Local anesthesia – mobile anteriors Dental extractions under Local anaesthesia – mobile posteriors Dental extractions under Local anaesthesia – non mobile anteriors and posteriors	100 cases
3.	Assisting minor surgical procedures; Frenectomy, Biopsy etc	5cases

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4.	Suturing of extraction wounds -Assisting-5 cases -Perform-5cases	10 cases
5.	Incision and drainage -Observe-2cases Wound dressing -Assist -3cases	5 cases
6.	Arch bar wiring Eyelet wiring and Intermaxillary fixation (plaster or acrylic models)	3 (1 Each)

7.	Intermaxillary fixation done by faculty	Observe
8.	Alveoloplasty under LA - Observe- 1 case -Assist - 2 cases	3 cases
9.	Observation of major surgical procedures under GA performed in OT	2
10.	Assisting and observing minor surgical procedures in casualty	2 cases
11.	Seminar – Presentation -Supervised by faculty	2
12.	Training in handling medical emergencies. CPR and basic life support- BLScourse	

Practical – 270 HOURS

Total – 348 Hours

A work record should be maintained by all students detailing each of the clinical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

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PUBLIC HEALTH DENTISTRY

a) GOAL:

To prevent and control oral diseases and promote oral health through organized community efforts

b) OBJECTIVES:

i. Knowledge:

At the conclusion of the course the student shall have a knowledge of the basis of public health, preventive dentistry, public health problems in India, Nutrition, Environment and their role in health, basics of dental statistics, epidemiological methods, National oral health policy with emphasis on oral health policy.

ii. Skill and Attitude:

At the conclusion of the course the students shall have acquire at the skill of identifying health problems affecting the society, conducting health surveys, conducting health education classes and deciding health strategies. Students should develop a positive attitude towards the problems of the society and must take responsibilities in providing health.

iii. Communication abilities:

At the conclusions of the course the student should be able to communicate the needs of the community efficiently, inform the society of all the recent methodologies in preventing oral disease

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S. NO	TOPICS	HOURS
1.	**INTRODUCTION TO DENTISTRY** Definition-Aims-Objectives-History of Dentistry-Scope	1
2.	**RESEARCH METHODOLOGY & BIOSTATISTICS** Introduction-Sampling And Sample Designs-Sampling Methods-Sample Size-Collection of Data-Presentation of Data-Uses of Biostatistics-Measures of Central Tendency-Measures of Dispersion-Normal Curve-Test of Significance	3
3.	**PUBLIC HEALTH** Definition-History-Changing Concepts in Public Health	1
4.	**CONCEPT OF HEALTH AND DISEASE** Definition of health-Changing concepts of health-Dimensions of health-Spectrum of health-Determinants of health-Indicators of health **Concepts of causation** - Germ theory - Epidemiological triad - Multifactorial causation - Web of causation **Natural history of diseases** - Pre pathogenesis factor - Pathogenesis factor - Risk factors - Ice berg phenomenon **Concepts of prevention** - Primordial - Primary - Secondary - Tertiary	3

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5.	**EPIDEMIOLOGY** 1. Definition 2. Objectives of Epidemiology 3. Epidemiological Approach 4. Tools of Measurement - Incidence - Prevalence - Bimodality 5. Uses of Epidemiology 6. Epidemiological Methods Descriptive Epidemiology - Analytical Epidemiology - Case-Control Study - Matching - Bias Cohort Study Experimental Epidemiology - Randomized Controlled Trial - Blinding	
6.	**ENVIRONMENT AND HEALTH** Water Source of water-Water Pollution-Water borne diseases-Hazards of water pollution-Water Purification -Large scale-Small scale-Chlorination Waste 1. Methods of disposal 2. Bangalore method	3

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7.	**HEALTH EDUCATION** 1. Definition 2. Aims & Objectives 3.Approaches 4.Contents 5.Principles 6.Aids Used in Health Education 7.Methods 8. Barriers of Communication 9. Planning of Dental Health Education Program	2
8.	**HEALTH CARE DELIVERY SYSTEM** 1. Primary Health Care a. Definition b. Elements c. Principles 2.Health Care System 3.Village Health Guide 4.Local Dais 5.Anganwadi Workers 6.ASHA 7. Subcenter Level 8. Primary Health Center Level a. Staffing Pattern b. Functions 9. Indigenous System of Medicine 10.Voluntary Health Agencies In India	3
9.	**INTERNATIONAL HEALTH ORGANIZATIONS** 1.International Health Organizations 2.WHO	2
10.	**NATIONAL HEALTH PROGRAMS** 1.National Health Programs	2
11.	**OTHERS** Occupational Hazards Mass disaster	1

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12.	**DENTAL PUBLIC HEALTH** 1. Definition 2. Characteristic of Public Health Works 3.Tools of Dental Public Health 4.Duties of a Public Health Dentist 5. Procedural Steps in Dental Public Health 6. Differences Between Private Practice and Public Health Dentistry 7.Oral Health Goals 8. IAPHD 9. Milestones In Dental Public Health	2
13.	**DENTAL EPIDEMIOLOGY** Epidemiology of Dental caries 1.Theories of Caries Etiology 2.Microflora 3. Role of Dental Plaque 4. Dietary Studies on Dental Caries 5.Caries Risk Assessment 6.Cariogram 7.Caries Vaccine 8.Caries Activity Tests 9.Prevention of Dental Caries	2
14.	**EPIDEMIOLOGY OF PERIODONTAL DISEASES** 1.Etiology of Periodontal Diseases 2.Dental Plaque 3.Plaque Control 4.Mechanical 5.Chemical 6.Disclosing Agents 7.Tooth Brushes 8.Dentifrices 9.Interdental Cleaning Aids 10.Prevention of Periodontal disease	2

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15.	**EPIDEMIOLOGY OF ORAL CANCER** 1.Etiology of Oral Cancer 2.Risk Factors of Oral Cancer 3.Types of Tobacco 4.Tobacco Counselling 5.Prevention of Oral Cancer	2
16.	**EPIDEMIOLOGY OF MALOCCLUSION** 1.Etiology of Malocclusion 2.Prevention of Malocclusion	1
17.	**INDICES** 1.Definition 2.Ideal Requisition 3.Classification 4.Uses 5.Indices for Oral Diseases	2
18.	**PLANNING** 1.Steps In Planning Process 2.Types of Evaluation	2
19.	**SURVEY** 1.Introduction 2.Types of Surveys 3.Uses of Surveys 4.Methods of Data Collection 5.Steps in Surveying 6.Calibration 7.Type of Examination 8.Pilot Survey 9.National Pathfinder Survey 10.WHO Form-1997	2

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20.	**DENTAL AUXILIARIES** 1. Classification 2. Expanded Function Auxiliaries 3.Frontier Auxiliaries 4. New Auxiliaries 5. Dental Manpower in India	1
21.	**FINANCE IN DENTAL CARE** 1. Mechanism of Payment for Dental Care 2. Financing In Dental Health Services in India 3. Dental Insurance	2
22.	**SCHOOL ORAL HEALTH PROGRAM** 1. Definition 2. Objectives 3. Ideal Requirements 4. Advantages 5. School Oral Health Programs 6. Comprehensive Care 7. Incremental Care	2
23.	**ETHICS** 1. Principles 2. Consent 3. Ethical Rules for Dentist	1
24.	**WHO AND ORAL HEALTH**	1
25.	**DCI** **IDA** **DENTIST ACT**	1
26.	**COPRA**	1
27.	**NATIONAL ORAL HEALTH POLICY**	1

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28.	**PREVENTIVE DENTISTRY** **FLUORIDES** 1. History 2. Mechanism of Action 3. Topical 4. Systemic 5. Water Fluoridation Studies 6. Toxicity 7. Defluoridation	4
29.	**PIT & FISSURE SEALANTS** 1. Types 2. Materials 3. Procedure 4. Indications & Contra Indications	1
30.	**ART** 1. Definition 2. Principles 3. Indications & Contra Indications 4. Procedure	1
31.	**NUTRITION AND ORAL HEALTH** 1. Classification of Food 2. Balanced Diet 3. Trace Elements in Dental Caries 4. Nutrition and Dental Caries 5. Nutrition and Periodontal Diseases 6. Nutrition and Malocclusion 7. Nutrition and Oral Cancer	2

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32.	**SOCIAL SCIENCES** **BEHAVIOURAL SCIENCES** 1. Sociology 2. Anthropology 3. Psychology 4. Taboos in Dentistry 5. Behavioral Management	1
33.	**ORAL HEALTH CARE FOR SPECIAL GROUPS** 1. Systemic Patients 2. Handicapped 3. Elderly 4. Pregnancy	1

Total - 60 HOURS

PRACTICALS

S.NO	TOPICS	HOURS
1.	1. CASE HISTORY RECORDING 2. INDICES A. Oral Hygiene Assessment - Oral Hygiene Index - Oral Hygiene Index – Simplified - Silness and Loe Plaque Index B. Dental Caries - DMFT/DMFS - deft/defs C. Gingival and Periodontal Health assessment - Gingival Index - Russel's Periodontal Index - Community Periodontal Index of Treatment Needs (CPITN) D. Fluorosis Index - Dean's Fluorosis Index	60

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	3. W.H.O- oral health assessment form (1997, 2013)	
2.	Field visits 1. Visit and submission of report on Water Purification Plant 2. Visit and submission of report on Primary Health Center 3. Visit and submission of report on Milk Diary 4. Visit and submission of report on Dental Clinics 5. Visit and submission of report on Sewage Treatment Plant	100

3.	Preventive procedures 1. Atraumatic Restorative Technique 2. Pit & fissure sealants 3. Acidulated phosphate fluoride gel application	40

Total - 200 HOURS

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COMPULSORY ROTATORY INTERNSHIP (CRI)

Curriculum of dental Internship Programme

1. The CRI Programme will be provided at the end of 1V year. After passing the Final BDS Degree Examination the candidate has to undergo Compulsory Rotating Internship programme for Twelve months (i.e. 365 days, 1750 HOURS) in the same institution.

2. During this period the candidates will be posted in all the clinical departments of theinstitution.

3. The B.D.S Degree will be awarded only after successful completion of the Internship programme.

4. During this training period they will have to attend to the routine clinical activities of the department under the supervision of faculty members.

5. The interns will also be posted in the Dental Casualty for attending to the emergency services of the institution and may also include ruralpostings.

1.	Oral Medicine & Radiology	1 month
2.	Oral & Maxillofacial Surgery	1 ½ months
3.	Prosthodontics and Crown & Bridge	1 ½ months
4.	Periodontology	1 month
5.	Conservative Dentistry & Endodontics	1 month
6.	Pediatric and Preventive Dentistry	1 month
7.	Oral Pathology & Oral Microbiology	15 days
8.	Orthodontics and Dentofacial Orthopaedics	1 month
9.	Public Health Dentistry	3 months
10	Elective	15 days

1750 HOURS

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DETERMINANTS OF CURRICULUM FOR INTERNSHIP FOR DENTAL GRADUATES

The curricular contents of internship training shall be based on:

1) Dental health needs of the society.
2) Financial, material and manpower resources available for the purpose.
3) National Dental Health Policy.
4) Social - economic conditions of the people in general
5) Existing Dental and also the primary health care concept for the delivery of health services.
6) Task analysis of what graduates in Dentistry in various practice settings, private and government service actually perform.
7) Epidemiological studies conducted to find out prevalence of different dental health problems, taking into consideration the magnitude of dental problems, severity of dental problems and social disruption caused by these problems.
8) Experiential judgement of experts in Dentistry in India.

OBJECTIVES

A. To facilitate reinforcement of learning and acquisition of additional knowledge

a) Reinforcement of knowledge.
b) Techniques & resources available to the individual and the community, social and cultural setting.
c) Training in a phased manner, from a shared to a full responsibility.

B. To facilitate the achievements of basic skills; attaining competence Vs. maintaining competence in: -

a) History taking
b) Clinical Examination
c) Performance interpretation of essential laboratory data.
d) Data analysis and inference.
e) Communication skills aimed and imparting hope and optimism in the patient.
f) Attributes for developing working relationship in the clinical setting and community teamwork.

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C. To facilitate development of sound attitudes and habits:

a) Emphasis on individual and human beings and not on disease/ syndromes.

b) Provision of comprehensive care, rather than fragmentary treatment.

c) Continuing Dental Learning and Education of accepting the Responsibility

D. To facilitate understanding of professional and ethical principles:

a) Rights and dignity of patients.

b) Consultation with other professionals and referral to senior institutions.

c) Obligations to peers, colleagues, patients, families and community

d) Provision of free professional services in an emergent situation.

E. To initiate individual and group action, leading to diseases prevention and dental health promotion, at the level of individuals, families and the Community.

CONTENT (SUBJECT MATTER)

The compulsory rotating Dental Internship shall include training in Oral medicine & Radiology; Oral & Maxillofacial Surgery; Prosthodontics, Periodontics; Conservative Dentistry/Endodontics, Paedodontics, Oral Pathology &Microbiology, Orthodontics and Community Dentistry.

GENERAL GUIDELINES:

It shall be task- oriented training. The interns should participate in various Institutional and field programmes and be given due responsibility to perform the activities in all the departments of Dental Colleges and associated Institutions.

To facilitate achievement of basic skills and attitudes the following facilities should be provided to all dental graduates:

a) History taking, examination, diagnosis, charting and recording treatment plan of cases.

b) Presentation of cases in a group or Seminar.

c) Care and sterilization of instruments used.

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d) Performance and interpretation of essential laboratory tests and other relevant investigation.
e) Data analysis and inference.
f) Proper use of antibiotics, anti - inflammatory and other drugs, as well as other therapeutic modalities.
g) Education of patients, their relatives and community on all aspects of dental health Care while working in the institution as also in the field.
h) Communication aimed at inspiring hope, confidence and optimism.
i) Legal rights of patients and obligations of dental graduate under forensic jurisprudence.

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ORAL MEDICINE & RADIOLOGY

a) Standardized examination of patients

b) Exposure to clinical, pathological laboratory procedures &Biopsies

c) Effective training in taking a Radiograph:

- Intra – Oral
- Extra – Oral
- Cephalogram

d) Effective management of cases in wards

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department.

ORAL AND MAXILLOFACIAL SURGERY

A. The Dental graduates during their posting in oral surgery shall perform the following procedures:

1) Extractions
2) Surgical extractions
3) Impactions
4) Simple IMP
5) Cysts enucleations
6) Incision and drainage 2cases
7) Alveoloplasties 2 Cases
8) Biopsies 3 Cases
9) Frenectomies, etc. 3 Cases

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B. The dental graduates shall perform the following on career posts:

A. Maintain file work
B. Do extractions for radiotherapy cases
C. Perform biopsies.
D. Observe varied cases of oral cancers.

The dental graduates shall have 15 days posting in Emergency services of a dental *I* general hospital
with extended responsibilities in emergency dental care in the wards. During this period, they shall
attend to all emergencies under the direct supervision of oral surgeon and assist the oral surgeon
during any operation.

EMERGENCIES

- Toothache.
- Trigeminal neuralgia.
- Bleeding from mouth due to trauma post extraction, bleeding disorder or haemophilia.
- Air way obstruction due to fracture mandible and maxilla; dislocation of mandible; syncope or vasovagal attacks; Ludwig's angina; tooth fracture; post inter - maxillary fixation
  after general Anaesthesia.
- Work in I.C.U. with particular reference to resuscitation procedures. Conduct tutorials on Medico- Legal aspects including reporting on actual cases coming to casualty.

a) They should have visits to law courts.

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department.

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PROSTHODONTICS

The dental graduates during their internship posting in prosthodontics make:

Minimum

a) Complete Denture
b) R.P.D
c) F.P.D
d) Planning of Cast Partial Denture design
e) Miscellaneous - like Reline/ Overdenture / Repairs
f) Learning of Face Bow and Semi Anatomic Articulator.
g) Crowns

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department.

During their posting of one week in the Community Health Centres, the dental graduates shall educate the public in prevention of dental disease.

PERIODONTICS

The dental graduates shall perform the following procedures:

	Minimum
a) Oral Prophylaxis	15 cases
b) Flap operation	2 cases
c) Root planing	1 case
d) Currettage	1 case
e) Gingivectomy	1 case
f) Perio - Endo Lesion	1 case

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During their posting of one week in the Community Health Centres, the dental graduates shall educate the public in prevention of dental disease.

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department.

CONSERVATIVE DENTISTRY AND ENDODONTICS

To facilitate reinforcement of learning and achievement of basic skills, the interns shall perform at least the following procedures independently or under the guidance of supervisors.

a) Restoration of extensively mutilated teeth
b) Inlay and onlay preparations
c) Use tooth coloured restorative materials
d) Treatment of discoloured vital and non - vital teeth.
e) Management of dento alveolar fracture
f) Management of pulpless, single - rooted teeth without periapical lesion
g) Management of acute dento alveolar infections
h) Management of pulpless, single - rooted teeth with Periapical lesion.
i) Non - Surgical management of traumatised teeth during formative period.

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department.

PEDIATRICAND PREVENTIVE DENTISTRY

During their posting in paedodontics the Dental graduates shall perform:

Topical application of fluorides including varnish.

a) Restorative procedures of carious deciduous teeth in children
b) Pulpotomy
c) Pulpectomy
d) Fabrication and insertion of space maintainers
e) Oral habit breaking appliances.

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A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department.

ORAL PATHOLOGY AND ORAL MICROBIOLOGY

The dental graduates shall perform the following:

a) History - recording and clinical examination
b) Blood, Urine and Sputum examination
c) Exfoliative Cytology smears study
d) Biopsy lab procedure

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department.

ORTHODONTICS

The dental graduates shall observe the following procedures during their posting in orthodontics**:**

a) Detailed diagnostic procedure for 5 patients.
b) Laboratory techniques including wire-bending for removable appliance.
c) Soldering and processing of myo-functional appliance.
d) Treatment plan options and decisions.
e) Making of bands, bonding procedures and wire insertions.
f) Use of extra - oral anchorage and observation of force values.
g) Retention.
h) Observe

A. The dental graduates shall do the following laboratory work:

a) Wire - bending for removable appliances
b) Soldering exercises
c) Cold Cure and Heat Cure Acrylisation of Orthodontic Appliances

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. The interns shall observe the following procedures during their posting in Orthodontics:

1. Detailed diagnostic procedures for 5 patients
2. Laboratory techniques including wire-bending for removable appliances,soldering
3. and processing of myo-functional appliances.
4. Treatment planning options and decisions.
5. Making of bands, bonding procedures and wire insertions.
6. Use of extra oral anchorage and observation of force values.
7. Retainers.
8. Observe handling of patients with oral habits causing malocclusions.

The dental graduates shall do the following laboratorywork:-

1.	Wire bending for removable appliances and space maintainers including weldoing and heat treatment procedure.	5 Cases
2.	Soldering exercises, banding & bonding procedures Cold-cure and heat-cure acrylisation of simple	2 cases
3.	Orthodontic appliances	5 cases

PUBLIC HEALTH DENTISTRY

The dental graduates shall conduct health education sessions for individuals and groups on Oral Health, Public Health Nutrition, Behavioural Sciences, Environmental Health, Preventive Dentistry and Oral Epidemiology.

A. They shall conduct a short - term epidemiological survey in the community, or in the alternate, shall participate in the community, or in the alternate, shall participate in the planning and methodology of such a survey.

B. They shall arrange effective demonstration of

a) Preventive & interceptive procedures for prevalent dental diseases.
b) Mouth - rinsing and other oral hygiene demonstrations 5 cases
c) Tooth brushing techniques 5 cases

C. Conduction of oral health education programmes at

a) School setting -2

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b) Community setting -2

c) Adult education programmes -2

D. Preparation of Health Education materials -5

E. Exposure to team concept and National Health Care systems

a) Observation of functioning of health infrastructure

b) Observation of functioning of health care team including multipurpose workers male and female, health educators and other workers.

c) Observation of at least one National Health Programme

d) Observations of inter linkages of delivery of oral health care with primary health dare.

e) Mobile dental clinic, as and when available, should be provided for this training

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department.

ELECTIVE POSTING

The Dental graduates shall be posted for 15 days in any of the dental departments of their choice mentioned in the foregoing.

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed bythe teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of thedepartment.

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ORGANISATION OF CONTENT

- The curriculum during the 4 year of B.D.S. training subjects - based with more emphasis on learning practical skills.
- During one-year internship the emphasis will be on competency based, community - oriented training.
- The practical skills to be mastered by the dental graduates along with the minimum performance level are given under the course content of different departments of Dental Education.
- The supervisors should see to it that proper facilities are provided in all departments and attached institutions for their performance.

SPECIFICATION OF TEACHING/ LEARNING ACTIVITIES

The didactic lectures are delivered during the four years training in B.D.S. These shall be avoided during the internship programme. Emphasis shall be on chairside teaching, small group teaching and discussions; tutorials, seminars, ward posting, laboratory posting, field visits and self-learning.

USE OF LEARNING RESOURCE MATERIALS

Overhead projectors, slide projectors, film projectors charts diagrams, photographs, posters, specimen, models and other audiovisual aids shall be provided in all the dental colleges and attached institutions and field areas.

If possible, Television.Video and tapes showing different procedures and techniques to be mastered by the dental graduates should be provided.

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EVALUATION

1. FORMATIVE EVALUATION

- Day to day assessment of the dental graduates during their internship posting should be done. The objective is that all the interns must acquire necessary minimum skills required for carrying out day to day professional work competently.
- This can be achieved by maintaining records and performance data book by all interns.
- This will not only provide a demonstrable evidence of the processes of training bit more importantly, of the intern's own acquisition of competencies as related to performance, it shall form a part of formative evaluation and shall also constitute a component of final grading of interns.

2. SUMMATIVE EVALUATION

It shall be based on the observation of the observers of different department and the records and performance data book maintained by the interns. Grading shall be done accordingly.

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RECOMMENDED BO O K S

GENERAL HUMAN ANATOMY INCLUDING EMBRYOLOGY AND HISTOLOGY

1) Clinical Anatomy for Medical Students, Snell (Richard S.), Little Brown & company, Boston.
2) Anatomy, R J Last's – McMinn.
3) Cunningham Manual of Practical Anatomy: Head & Neck & Brain.Vol.III, Romanes (G.J) Oxford Medical publication.
4) Functional Histology, Wheater, Burkitt & Daniels, Churchill Livingstone.
5) Medical Embryology, Sadler, Langman's.
6) Grant's Atlas of Anatomy, James E Anderson, Williams & Wilkins.
7) Gray's Anatomy, Williams, Churchill Livingstone.
8) Medical Genetics, Emery.
9) Essentials of Anatomy for Dentistry Students, D R Singh, Wolters Kluwer.

PHYSIOLOGY

1) Text book of Physiology, Guyton.
2) Review of Medical Physiology, Ganong.
3) Human physiology, Vander.
4) Concise Medical Physiology, Choudhari.
5) Human Physiology, Chaterjee.
6) Human Physiology for BDS students, A.K. Jain.

REFERENCE BOOKS

1) Physiology, Berne & Levey.
2) Physiological basis of Medical Practice, West-Best & Taylor's.

EXPERIMENTAL PHYSIOLOGY

1) Practical Physiology, Rannade.
2) A text book of practical physiology, Ghai.

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3) Clinical Methods, Hutchison's.

BIOCHEMISTRY

1) Textbook of Biochemistry for Dental Students, DM Vasudevan, Sreekumari S.
2) Text book of Biochemistry-U Satyanarayana.

REFERENCE BOOKS

1) Harper's Biochemistry, R.K. Murray et.al.
2) Text book of Biochemistry with clinical correlations T.N.Devlin.
3) Basic and applied Dental Biochemistry, R.A.D. Williams & J.C. Elliot.
4) Nutritional Biochemistry S. Ramakrishnan and S.V. Rao.

DENTAL MATERIALS

1) Phillips Science of Dental Materials - Kenneth J.Anusavice.
2) Restorative Dental Materials -Robert G. Craig.
3) Notes on Dental Materials - E.C. Combe.

REFERENCE BOOKS

1) Introduction to Dental Materials, Van Noort.
2) Applied Dental Materials, McCabe.

DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

1) Orban's Oral Histology & Embryology - S.N. Bhaskar.
2) Oral Development & Histology - James & Avery.
3) Wheeler's Dental Anatomy, Physiology & Occlusion – Major M.Ash.
4) Dental Anatomy - its relevance to dentistry - Woelfel & Scheid
5) Applied Physiology of the mouth –Lavelle.
6) Physiology & Biochemistry of the mouth –Jenkins.
7) Oral Histology- 'Development, Structure and Function- A. R. Tencate.

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GENERALPATHOLOGY

1) Robbins - Pathologic Basis of Disease Cotran, Kumar, Robbins.
2) Anderson's Pathology Vol 1 & 2 Editors - Ivan Damjanov & James Linder.
3) Wintrobe's clinical Haematology Lee, Bithell, Foerster, Athens, Lukens.

MICROBIOLOGY

1) Text book of Microbiology - R. Ananthanarayan & C.K. JayaramPaniker.
2) Medical Microbiology - David Greenwood et al.

REFERENCE BOOKS

1) Microbiology - Prescott, et al.
2) Microbiology - Bernard D. Davis, et al.
3) Clinical & Pathogenic Microbiology - Barbara J Howard, et al.
4) Mechanisms of Microbial diseases - Moselio Schaechter, etal.
5) Immunology an Introduction – Tizard.
6) Immunology - Evan Roitt, et al.

DENTAL MATERIALS

1) Phillips Science of Dental Materials - Kenneth J. Anusavice

PRE CLINICAL PROSTHODONTICS:

1) Essentials of complete denture prosthodontics – Sheldon winkler
2) Stewart's clinical removable partial prosthodontics

GENERAL AND DENTAL PHARMACOLOGY AND THERAPEUTICS

1) Basic and Clinical pharmacology, Bertam G. Katzung, Appleton & Lange.
2) Clinical Pharmacology, Lauerence DR, Churchill Livingstone.
3) Pharmacology and Pharmacotherapeutics Part I & Part II, Satoskar R.S. & Bhandarkar S. D, Popular Prakashan Mumbai.
4) Essentials of Medical Pharmacology, Tripathi K.D, Jaypee Brothers.
5) Medical Pharmacology, Udaykumar, CBS publishing.

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GENERALMEDICINE

1) Textbook of Medicine Davidson.
2) Textbook of Medicine Hutchinson.

GENERALSURGERY

1) Short practice of Surgery Baily & Love.

ORAL PATHOLOGY & ORAL MICROBIOLOGY

1) A Text Book of Oral Pathology Shafer, Hine & Levy.
2) Oral & Maxillofacial pathology – Brad W Neville
3) Oral Pathology - Clinical Pathologic correlations Regezi &Sciubba.
4) Oral Pathology Soames & Southam.
5) Oral Pathology in the Tropics Prabhu, Wilson, Johnson & Daftary.

PUBLIC HEALTH DENTISTRY

1) Dentistry Dental Practice and Community by David F. Striffler and Brain A. Burt, W. B. Saunders Company.
2) Principles of Dental Public Health by James Morse Dunning, Harward University Press.
3) Dental Public Health and Community Dentistry Ed by Anthony Jong Publication by The C. V. MosbyCompany.
4) Community Oral Health-A system approach by Patricia P. Cormier and Joyce I. Levy published by Apple ton-Century-Crofts/ NewYork.
5) Community Dentistry-A problem-oriented approach by P. C.
6) Dental Hand book series Vol.8 by Stephen L. Silverman and Ames F. Tryon, Series editor-Alvin F. Gardner, PSG Publishing company Inc. Littleton Massachusetts.
7) Dental Public Health- An Introduction to Community Dentistry. Edition by Geoffrey L. Slack and Brain Burt, Published by John Wright and sons Bristol.
8) Oral Health Surveys- Basic Methods, 1997, published by W. H. O Geneva available at the regional office New Delhi.
9) Preventive Medicine and Hygiene-By Maxcy and Rosenau, published by

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Appleton Century Crofts.

10) Preventive Dentistry-by J. O. Forrest published by John Wright and sons Bristoli.
11) Preventive Dentistry by Murray.
12) Text Book of Preventive and Social Medicine by Park and park 24th edition.
13) Essentials of Pubic health dentistry by Dr. Soben Peter 6thedition.
14) Public Health dentistry, Sikri. CBS Publishing Behaviourial Science General Psychology- Hans Raj, Bhatia.

BEHAVIORAL SCIENCES

1) Behavioural Sciences in Medical Practice- Manju Mehta.
2) General psychology — Hans Raj, Bhatia.
3) General psychology —Munn.
4) Sciences basic to psychiatry -- Basanth Puri & Peter JTyrer.

ETHICS

1) Medical Ethics, Francis C M, Jaypee Brothers, New Delhi.

RESEARCH METHODOLOGY AND BIO-STATISTICS

1) Introduction to Bio-statistics by B. K. Mahajan.
2) Introduction to Statistical Methods by Grewal.

PAEDIATRIC AND PREVENTIVE DENTISTRY

1) Dentistry for the Child and Adolescence - Mc. Donald.
2) Pediatric Dentistry (Infancy through Adolescence) - Pinkham.
3) Pediatric Dentistry: Total Patient Care – Stephen H.Y. Wei.
4) Clinical Pedodontics – Sidney B. Finn.
5) Fundamentals of Pediatric Dentistry – R.J. Mathewson.
6) Handbook of Clinical Pedodontics - Kenneth. D.
7) Text Book of Pedodontics- Shobha Tandon.
8) Pediatric Dentistry - Damle S. G.

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9) Kennedy's Pediatric Operative Dentistry - Kennedy &Curzon.
10) Handbook of Pediatric Dentistry – Cameron and Widmer.
11) Pediatric Dentistry - Richard R. Welbury.
12) Pedodontics: A Clinical Approach - Goran Koch.
13) Orthodontics and Pediatric Dentistry (Colour Guide) - D Millet & R Welbury.
14) Color Atlas of Oral Diseases in Children and Adolescents - GeorgeLaskaris.
15) Dental Management of the Medically Compromised Patient –J.W.Little.
16) Pediatric Dentistry – Scientific Foundations and Clinical Practice – Stewart and Barber.
17) Clinical Use of Fluorides - Stephen H. Wei.
18) Understanding of Dental Caries - Niki Foruk.
19) Essentials of Community & Preventive Dentistry - Soben Peters.
20) Behaviour Management – Wright.
21) Traumatic Injuries - Andreason.
22) Occlusal Guidance in Pediatric Dentistry - Stephen H. Wei /Nakata.
23) Pediatric Oral & Maxillofacial Surgery - Kaban.
24) Pediatric Medical Emergencies - P. S. Whatt.
25) An Atlas of Glass Ionomer Cements - G. J. Mount.
26) Textbook of Pediatric Dentistry - BrahamMorris.
27) Primary Preventive Dentistry - Norman O. Harris.
28) Preventive Dentistry - Forrester.
29) Contemporary Orthodontics - Profitt.
30) Preventive Dentistry - Depaola.
31) Endodontics - Ingle.
32) Pathways of Pulp - Cohen.
33) Management of Traumatized anterior Teet Hargreaves.

ORAL MEDICINE AND RADIOLOGY

ORAL DIAGNOSIS, ORAL MEDICINE & ORAL PATHOLOGY

1) Oral Medicine, Burkit, J.B. Lippincott Company.
2) Principles of Oral Diagnosis, Coleman, Mosby YearBook.

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3) Oral Manifestations of Systemic Diseases, Jones, W.B. Saunderscompany.
4) Oral Diagnosis & Oral Medicine, Mitchell.
5) Oral Diagnosis, Kerr.
6) Oral Diagnosis & Treatment, Miller.
7) Clinical Methods, Hutchinson.
8) Shafers, Oral Pathology.
9) Principles and practice of Oral Medicine, Sonis.S.T., Fazio.R.C. andFang.L.

ORAL RADIOLOGY

1) Oral Radiology White & Goaz, Mosby yearBook.
2) Dental Radiology, Weahrman, C.V. Mosby Company.
3) Oral Roentgenographs Diagnosis, Stafne, W.B. Saunders Co.
4) Fundementals of Dental radiology, Sikri, CBS Publishing.

ORTHODONTICS

1) Contemporary Orthodontics- William R. Proffit.
2) Orthodontics for Dental Students- White andGardiner.
3) Handbook of Orthodontics- Moyers.
4) Orthodontics - Principles and Practice- Graber.
5) Design, Construction and Use of Removable Orthodontic Appliances- C. Philip Adams.
6) Clinical Orthodontics: Vol 1 & 2- Salzmann.

ORAL AND MAXILLOFACIAL SURGERY

1) Impacted teeth, Alling John et al.
2) Principles of Oral & maxillofacial Surgery vol1,2&3 Peterson LJ et al.
3) Text book of Oral & maxillofacial Surgery, Srinivasan B.
4) Hand book of Medical emergencies in the dental office, Melamed SF.
5) Killey's Fracture of the Mandible, Banks.
6) Killey's Fractures of the Middle 3 of the Facial Skeleton; Banks P.
7) The Maxillary Sinus and its Dental Implications; Mc Govanda.

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8) Killey and Kays Outline of Oral Surgery - Fart l& 2; Seward GR & etal.
9) Essentials of Safe Dentistry for the Medically Compromised Patients; Mc Carthy FM.
10) Oral & Maxillofacial Surgery, Vol l& 2; Laskin DM.
11) Extraction of Teeth; HoweGL.
12) Minor Oral Surgery; Howe GL.
13) Contemporary Oral & Maxillofacial Surgeiy; Peterson LJ.
14) Text book of Oral &Maxillofacial Surgery, Neelima Anil Malik.
15) Text book of Oral &Maxillofacial Surgery, SMBalaji.
16) Principles of Oral Surgery; Moore J R.
17) Handbook of Local Anaesthesia, Malamed.
18) Sedation; Malamed.
19) Text book of Oral & Maxillofacial Surgery; Gustav O Kruger.
20) Textbook of Local Anaesthesia,Monheim.

PROSTHODONTICS, AND CROWN & BRIDGE

1) Syllabus of Complete denture -Charles M. Heartwell Jr. and Arthur O.Rahn.
2) Prosthodontic treatment for edentulous patients- Carl O. Boucher.
3) Essentials of complete denture prosthodontics by - SheldonWinkler.
4) Maxillofacial prosthetics by - Willam R. Laney.
5) McCraken's Removable partial Prosthodontics.
6) Removable partial Prosthodontics by - Ernest L. Miller and Joseph E. Grasso.
7) Stewart’s Clinical Removable Partial Prosthodontics, Quintessence Publishing Co.
8) Fundementals of Fixed Prosthodontics, Shillingburg, Quintessence Publishing Co.
9) Management of Temporomandibular Disorders and Occlusion, Jeffery P. Okeson, Mosby Year book, Inc.

PERIODONTOLOGY

1) Carranza’s Clinical pathology

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REFERENCE BOOKS

1) Essentials of Periodontology and periodontics- TorquilMacPhee.
2) Contemporary periodontics- Cohen.
3) Periodontal therapy- Goldman.
4) Orbans' periodontics- Orban.
5) Oral Health Survey- W.H.O.
6) Preventive Periodontics- Young and Stiffler.
7) Advanced Periodontal Disease- John Prichard.
8) Clinical Periodontology- Jan Lindhe.
9) Periodontics- Baer & Morris.

CONSERVATIVE DENTISTRY AND ENDODONTICS

1) The Art & Science of Operative Dentistry, Sturdevant, MosbyU.S.A.
2) Principle & Practice of Operative Dentistry, Charbeneau, Varghese Publishing, Mumbai.
3) Grossman's Endodontic Practice, B. Suresh Chandra & V. GopiKrishna, Wolters Kluwer.

Note: 1. Book titles will keep on adding in view of the latest advances in the Dental Sciences.

2. Standard books from Indian authors are also recommended.

LIST OF JOURNALS

1) Journal of Dentistry.
2) British Dental Journal.
3) International Dental Journal.
4) Dental Abstracts.
5) Journal of American Dental Association.
6) British Journal of Oral and Maxillofacial Surgery.
7) Oral Surgery, Oral Pathology and Oral Medicine.
8) Journal of Periodontology.
9) Journal of Endodontics.
10) American journal of Orthodontics and Dentofacial Orthopedics.

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11) Journal of Prosthetic Dentistry.
12) International Journal of Prosthodontics.
13) Journal of Public Health Dentistry.
14) Endodontics and Dental Traumatology.
15) Journal of Dental Education.
16) Dental Update.
17) Journal of Dental Material.
18) International Journal of Pediatric Dentistry.
19) International Journal of Clinical Pediatric dentistry.

Note: This is the minimum requirement. More journals both Indian and Foreign are recommended for imparting research-oriented education.

I BDS TIME TABLE FOR THE ACCADEMIC YEAR 2023-24
VENUE : VMKV MEDICAL COLLEGE, SALEM.

DAYS	9.00 am to 10.00 am	10.01 am to 11.00 am	11.01 am to 12.45 pm	12.46 pm to 1.30 pm	1.31 pm to 2.30 pm	2.31 pm to 4.00 pm
MONDAY	Physiology (Theory)	Biochemistry (Theory)	Environmental Science	Lunch	Anatomy (Theory)	Histology Practical
TUESDAY	Biochemistry (Theory)	Anatomy (Theory)	Physiology/ Biochemistry (Tutorials)		Physiology (Theory)	Anatomy Dissection
WEDNESDAY	Anatomy (Theory)	Physiology (Theory)	Physiology / Biochemistry (Practical)		Biochemistry (Theory)	Anatomy Dissection

VENUE : VINAYAKA MISSON'S SANKARACHARIYAR DENTAL COLLEGE, SALEM

DAYS	8.30 am to 9.30 am	9.31 am to 10.30 am	10.31 am to 10.45 am	10.46 am to 11.45 pm	11.46 pm to 12.45 pm	12.46 pm to 1.30 pm	1.31 pm to 3.30 pm
THURSDAY	Dental Anatomy (Theory)	Dental Materials (Theory)	Tea Break	Dental Anatomy (A-Batch)/ Dental Materials (B-Batch) Practicals	Dental Anatomy (B-Batch)/ Dental Materials (A-Batch) Practicals	Lunch	Preclinical Prostho Practicals
FRIDAY	Dental Anatomy - (Practicals)			Dental Anatomy (Theory)	Dental Anatomy (Practicals)		Dental Anatomy Practicals
SATURDAY	8.30 am to 11.00 am	11.01 am to 11.15 am	11.16 am to 1.30 pm		1.31 pm to 2.00 pm	2.01 pm to 3.30 pm	
	Dental Anatomy (A-Batch))/ Preclinical Prostho (B-Batch)) Practicals	Tea Break	Dental Anatomy (B-Batch))/ Preclinical Prostho (A-Batch)) Practicals		Lunch	Mentoring / Library Time	

VMS DENTAL COLLEGE SALEM
Sign
Date 8-8-23

Prof. Dr.R.SARANYAN, M.D.S.,
Associate Dean (Academic Affairs),
V.M.S. Dental College,
Ariyanoor, Salem - 636 308.

DEAN
Vinayaka Mission's
Sankarachariyar Dental College,
NH-47, Sankari Main Road,
Ariyanoor (Po), Salem-636 308.
Tamilnadu, India.

VINAYAKA MISSION'S SANKARACHARIYAR DENTAL COLLEGE, SALEM

SECOND YEAR BDS TIME TABLE FOR THE ACADEMIC YEAR 2023-24

VENUE:VMKV MEDICAL CILLEGE,SALEM

TIME & DAYS	9.00 am to 10.30 am	10.31 am to 11.31 am	11.31 am to 11.45 am	11.46 am to 1.30 pm	1.31 pm to 2.30 pm	2.31 pm to 3.30 pm	3.31 pm to 4.00 pm
MONDAY	Microbiology	Pharmacology	Tea Break	A Batch - 1st & 3rd Week-Microbiology 2nd &4th week -G.Pathology B Batch-1st & 3rd Week-G.Pathology 2nd & 4th week -Microbiology	Lunch Break	G. Pathology	Slow leaners/ Advanced leaners Training
TUESDAY	G. Pathology	Microbiology / G.pathology		A Batch - 1st Week-Microbiology 3rd Week- G.Pathology 2nd & 4th Week - Pharmacology B Batch- 1st &3rd Week -Pharmacology 2nd Week-Microbiology 4th Week-G.Pathology		Pharmacology	Slow leaners/ Advanced leaners Training

Note: 1st week of a month to be considered if it begain with Monday or Tuesday. If month begins with any other day the following week will be considered as the 1st week of the month. 5th week (if any) practicals classes will be shared alternatively between Pathologyand microbiology

VENUE : VINAYAKA MISSION'S SANKARACHARIYAR DENTAL COLLEGE

TIME & DAYS	8.30 am to 9.30 am	9.31 am to 10.30 am	10.31 am to 10.45 am	10.46 am to 01.30 pm	1.31 pm to 2.00 pm	2.01 pm to 3.30 pm
WEDNESDAY	DM(Prostho)	Preclinical Prostho/ODS (Theory)	Tea Break	Preclinical Prostho/ODS	Lunch Break	Preclinical Prostho/ODS
THURSDAY	DM Lab Prostho/ODS	DM Lab Prostho/ODS		Preclinical Prostho/ODS		Oral Pathology
FRIDAY	DM (ODS)	DM Lab Prostho/ODS		Preclinical Prostho/ODS		Preclinical Prostho/ODS
SATURDAY	8.30 am to 10.45 am		10.46 am to 11.00 am	11.01 am to 1.30 pm	01.31 am to 2.00 pm	2.01 am to 3.30 pm
	DM Lab Prostho/ODS		Tea Break	DM Lab Prostho/ODS	Lunch Break	Mentoring /libraryTime

VMS DENTAL COLLEGE SALEM
Sign. 28-8
Date 8.8.23

Prof. Dr.R.SARANYAN, M.D.S.,
Associate Dean (Academic Affairs),
V.M.S. Dental College,
Ariyanoor, Salem - 636 308.

DEAN
Vinayaka Mission's
Sankarachariyar Dental College,
NH-47, Sankari Main Road,
Ariyanoor (Po), Salem-636 308.

VINAYAKA MISSION'S SANKARACHARIYAR DENTAL COLLEGE, SALEM

THIRD YEAR BDS TIME TABLE FOR THE ACADEMIC YEAR 2022-23

TIME & DAYS	8:30 - 9:30 (THEORY)	9:31-10:30 (THEORY)	10:31 TO 10:45	10:46-11.45	11:46-1:15	1:16-2:00	2:01-3:30
MONDAY	ODS	ORAL PATH	BREAK	ORAL PATH THEORY	CLINICAL POSTING	LUNCH	ORAL PATH (PRAC)
TUESDAY	PERIO/ PEDO(2nd Tuesday)	OMR/ PROSTHO (2nd Tuesday)		ORAL PATH THEORY	CLINICAL POSTING		ORAL PATH (PRAC)
WEDNESDAY	GENERAL SURGERY	GENERAL MEDICINE		VMKV-MCH PRAC			CLINICAL POSTING
THURSDAY	GENERAL MEDICINE	GENERAL SURGERY		VMKV-MCH PRAC			CLINICAL POSTING
FRIDAY	ORTHODONTICS	ORAL SURGERY		CLINICAL POSTING			CLINICAL POSTING
SATURDAY	PAEDODONTICS	PROSTHODONTICS		CLINICAL POSTING			MENTORING

VMS DENTAL COLLEGE SALEM
Sign:
Date: 8.8.22

Prof. Dr.R.SARANYAN, M.D.S.,
Associate Dean (Academic Affairs),
V.M.S. Dental College,
Ariyanoor, Salem - 636 308.

DEAN
Vinayaka Mission's
Sankarachariyar Dental College,
NH-47, Sankari Main Road,
Ariyanoor (Po), Salem-636 308.
Tamilnadu, India.

VINAYAKA MISSION'S SANKARACHARIYAR DENTAL COLLEGE, SALEM

THIRD YEAR BDS TIME TABLE FOR THE ACADEMIC YEAR 2023-24

TIME & DAYS	8:30 - 9:30 (THEORY)	9:31-10:30 (THEORY)	10:31 TO 10:45	10:46-11.45	11:46-1:15	1:16-2:00	2:01-3:30
MONDAY	ODS	ORAL PATH	BREAK	ORAL PATH THEORY	CLINICAL POSTING	LUNCH	ORAL PATH (PRAC)
TUESDAY	PERIO/ PEDO(2nd Tuesday)	OMR/ PROSTHO (2nd Tuesday)		ORAL PATH THEORY	CLINICAL POSTING		ORAL PATH (PRAC)
WEDNESDAY	GENERAL SURGERY	GENERAL MEDICINE		VMKV-MCH PRAC			CLINICAL POSTING
THURSDAY	GENERAL MEDICINE	GENERAL SURGERY		VMKV-MCH PRAC			CLINICAL POSTING
FRIDAY	ORTHODONTICS	ORAL SURGERY		CLINICAL POSTING DENTAL ENGG(3rd Friday)			CLINICAL POSTING
SATURDAY	PAEDODONTICS	PROSTHODONTICS		CLINICAL POSTING DENTAL ENGG(3rd Saturday)			MENTORING

VMS DENTAL COLLEGE SALEM
Sign.
Date 8.8.23

Prof. Dr.R.SARANYAN, M.D.S.,
Associate Dean (Academic Affairs),
V.M.S. Dental College,
Ariyanoor, Salem - 636 308.

DEAN
Vinayaka Mission's
Sankarachariyar Dental College,
NH-47, Sankari Main Road,
Ariyanoor (Po), Salem-636 308.
Tamilnadu, India.

TIME TABLE IV B.D.S - ACADEMIC YEAR -2023-2024

VINAYAKA MISSION'S SANKARACHARIYAR DENTEL COLLEGE

DAYS/TIME	8:30 am -9:30am	9:31 am-10:30am	10:31am-10:45am	10:46am - 1.15.pm	1:16 pm-2.00	2:01 pm-3:30pm
MONDAY	CONSERVATIVE	PERIODONTICS	TEA BREAK	CLINICS	LUNCH BREAK	CLINICS
TUESDAY	ORTHODONTICS-1 week (2nd,3rd,&4th week- ORAL SURGERY)	PROSTHODONTICS				
WEDNESDAY	ORAL MEDICINE	PHD				
THURSDAY	PERIO-(1 st &3rd week) / PHD(2nd &4th week)	PEDODONTICS				
FRIDAY	PROSTHODONTICS	CONSERVATIVE				
SATURDAY	ORTHODONTICS	ORAL SURGERY				

VMS DENTAL COLLEGE SALEM
Sign:
Date: 8.8.23

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