

THE TAMIL NADU
Dr. M.G.R. MEDICAL UNIVERSITY
CHENNAI.



REGULATIONS, FOR THE
BACHELOR OF
DENTAL SURGERY
DEGREE COURSE

**THE TAMIL NADU
Dr.M.G.R. MEDICAL UNIVERSITY
CHENNAI**

Regulations of the University

In exercise of the powers conferred by Section 44 of the Tamil Nadu Dr. M.G.R. Medical University, Chennai, Act, 1987 (Tamil Nadu Act 37 of 1987), the standing Academic Board of the Tamil Nadu Dr. M.G.R. Medical University, Chennai hereby makes the following regulations:-

SHORT TITLE AND COMMENCEMENT:-

These regulations shall be called "THE REGULATIONS FOR THE BACHELOR OF DENTAL SURGERY (BDS) DEGREE COURSE OF THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI.

They shall come into force from the academic year 1997-98 onwards.

The regulation and the Syllabus are subject to modification by the Standing Academic Board from time to time.

REGULATIONS FOR THE
BACHELOR OF
DENTAL SURGERY
DEGREE COURSE

REGULATIONS

1. ELIGIBILITY FOR ADMISSION TO B.D.S. DEGREE COURSE

(A) Candidates belonging to all categories except Scheduled Caste / Scheduled Tribes for admission to the Dental Course should have obtained not less than 50% marks on aggregate in Physics, Chemistry and Biology (Botany / Zoology) at the qualifying examination (Academic stream) after a period of 12 years study.

(B) Candidates belonging to Scheduled castes / Scheduled Tribes, the minimum marks for admission shall be 40% in lieu of 50% for General Category.

(C) Graduate candidates should have qualified for the B.Sc. Degree of an Indian University recognised by the Association of Indian Universities and accepted as equivalent by the Standing Academic Board and Governing Council of this University subject to such conditions as may be prescribed therefor with one of the following subjects as major subject viz. Physics, Chemistry, Botany, Zoology and one other prescribed Science subject of study at least upto the ancillary level; provided that such candidates shall have passed the earlier qualifying examination (Higher secondary Examination or an equivalent examination) with the subjects English, Physics, Chemistry, Biology / Botany and Zoology.

(D) Where the course content is not as prescribed for 10 +2 education structure of the National Committee the candidates will have to undergo a period of one year pre-professional training before admission to the Dental Colleges.

a) The Pre-Profession / Pre-Medical examination with Physics, Chemistry and Biology, after passing either the higher secondary school examination, or the pre-university or an equivalent examination. The Pre-Professional / Pre-Medical examination shall include a practical test in these subjects.

b) The Pre-University course which was in vogue prior to the advent of the Higher Secondary examination shall not be treated as equivalent to the Higher Secondary Examination (10 +2) for purpose of eligibility and admission to the course.

c) Wherever the State Board / Body of appropriate authority have taken into account only the Plus Two level marks to determine the class of the candidate and issue the statement of marks accordingly, it alone would be taken into consideration.

d) Wherever the State Board / Body or appropriate authority have taken into account the marks obtained at the Plus One and Plus Two level to determine the class of the candidate and furnish the statement of marks, accordingly, the aggregate of the two examinations shall be taken into consideration.

e) Candidates who have studied abroad, the equivalency of qualification as determined by the Association of Indian Universities shall from the guidelines to determine the eligibility and should have passed in the subjects of Physics, Chemistry, Biology (Botany / Zoology) and English upto the 12th Standard level with 50% marks aggregate.

f) Any criteria not covered under the above provisions, the ruling of the Eligibility committee shall be adopted.

(E) Candidates who have passed the Senior Secondary School examination of National Open School with minimum 5 subjects with any of the following group of subjects:

a) English, Physics, Chemistry, Botany, Zoology.

b) English, Physics, Chemistry, Biology and any other language.

(To be read along with "Qualification for Admission" 'A' and 'B')

(F) Improvement of marks in the Higher Secondary Examinations. Candidates belonging to all categories who have passed the qualifying examination without acquiring the stipulated minimum academic requirements prescribed in the first appearance are permitted two opportunities for improvement within one year of the first appearance in the qualifying examination for determining the eligibility for admission to the first B.D.S. Course.

(g) Reappearance of failed candidates: belonging to all categories, who have failed in the qualifying examination in the first appearance are permitted two opportunities within a period of one year following the first appearance in the qualifying examination, for passing of failed subjects to determine the eligibility for admission to the First B.D.S. Course.

2. AGE LIMIT FOR ADMISSION

Candidate should have completed the age of 17 years at the time of admission or would complete the age on or before 31st December of the year of admission to the first year B.D.S. Course.

3. ELIGIBILITY CERTIFICATE

Candidates who have passed any qualifying examination other than the Higher Secondary course examination conducted by the Government of Tamil Nadu shall obtain an eligibility certificate from the University by remitting the prescribed fees along with the application form before admission to any one of the affiliated Dental Institutions.

4. REGISTRATION

A candidate admitted to the course in any of the affiliated colleges shall register with this University by remitting the prescribed fees along with the application form for registration duly filled in and

forwarded to this University through the Head of the Institution within the stipulated date.

5. DURATION OF THE COURSE

The period of certified study for the course of Degree of Bachelor of Dentistry shall extend over to a period of 4 academic years and one year of Compulsory Rotatory Internship before the award of the Degree.

6. COMMENCEMENT OF THE COURSE

1st July of an academic year.

7. ACADEMIC TERMS

First B.D.S.	-	June 1st to 31st May
II B.D.S.	-	June 1st to 31st May
III B.D.S.	-	June 1st to 31st May
IV B.D.S.	-	June 1st to 31st May

and one year of Compulsory Rotatory Internship.

8. CURRICULUM

The curriculum and the syllabi for the course shall be as prescribed from time to time, by the Standing Academic Board.

9. COMMENCEMENT OF EXAMINATIONS

June 1st / November 1st

If the date of commencement falls on Saturdays, Sundays or declared public holidays, the examination shall begin on the next working day.

10. CUTOFF DATES FOR ADMISSION TO EXAMINATIONS

The candidates admitted from 1st July to 30th September of the academic year will be registered to take up their 1st year examination on 1st June of the next year after completing 200 working days.

The candidates admitted from 1st October to 31st December will be registered to take up their 1st year examination on 1st November of the next year after completing 200 working days.

There will not be any admission after 31st December for the academic year. This decision will come into effect from 2000-2001 academic year onwards.

11. WORKING DAYS IN AN ACADEMIC YEAR

Each academic year shall consist of not less than 200 working days.

12. ATTENDANCE REQUIRED FOR ADMISSION TO EXAMINATION

a) No candidate shall be permitted to any one of the parts of B.D.S. examination unless he/she has attended the course in the subject for the prescribed period in an affiliated institution recognised by this University and produces the necessary certificates of study, attendance and satisfactory conduct from the Head of the Institution.

b) A candidate is required to put in minimum of 80% of attendance in both theory and practical / clinical separately in each subject before admission to the examination.

c) A candidate lacking in the prescribed attendance in theory and practical / clinical, in any one subject, in the first appearance shall not be permitted for admission to the entire examinations.

d) 80% attendance for the additional period is compulsory.

13. REGULATIONS FOR CONDONATION OF LACK OF ATTENDANCE

Condonation of shortage of attendance upto a maximum of 10% in the prescribed eligible attendance for admission to an examination rests with the discretionary power; of the Vice-Chancellor. A candidate lacking in attendance shall submit an

application in the prescribed form and remit the stipulated fee 15 days prior to the commencement of the theory examination. The Head of the Department and Head of the Institution should satisfy themselves on the reasonableness of the candidates request while forwarding the application with their endorsements to the Controller of Examination who would obtain the Vice-Chancellor's approval for admission to the examinations. No application would be reviewed if it is not forwarded through proper channel.

Condonation for lack of attendance shall be taken up for consideration under the following circumstances:

a) Any illness afflicting the candidate. (The candidate should submit to the Head of the Institution a Medical Certificate from a registered Medical Practitioner soon after he / she returns to the Institution after treatment.)

b) Any unforeseen tragedy in the family. The parent / guardian should given in writing the reason for the ward's absence to the Head of the Institution.)

c) Participation in NCC NSS and other coordinated activities representing the Institution or University. (The Head of the Institution should instruct the concerned officers in-charge of the student activities in their institution to endorse the leave.)

d) Any other leave the Head of the Institution deems reasonable for condonation.

14. RE-ADMISSION AFTER BREAK OF STUDY

a) Candidates having a break of study of 5 years and above from the date of admission and more than two spells of break will not be considered for readmission.

b) The calculation of the break of study of the candidate for readmission shall be calculated from the date of first discontinuance of the course instead of from the date of admission.

c) Candidates having break of study shall be considered for readmission provided that they are not subjected to any disciplinary action and no charges are pending or contemplated against them.

d) All readmissions of candidates are subject to the approval of the Vice-Chancellor.

e) The candidates having a break of study below 6 months shall apply for readmissions for condonation to the Academic Officer of this University. The candidates may be readmitted in the corresponding course of study at the commencement of the session and shall undergo a minimum period of study of 3 months and after fulfillment of the regulations of this University be admitted for the examination. The candidate shall be granted exemption in the subjects they have already passed.

f) The candidates having a break of study of 6 months and above but less than one year shall apply for readmission in the prescribed form and remitting the stipulated fee for condonation to the Academic Officer of this University. The candidates may be recommitted in corresponding course of study at the commencement of the session and shall undergo a minimum period of study of 3 months and after fulfillment of the regulations of this University be admitted for the examination. The candidate shall be granted exemption in the subjects they have already passed.

g) With regard to the candidates having break of study of one year and above but less than three years shall apply for readmission in the prescribed form and remitting the stipulated fee for condonation to the Academic Officer of this University. The candidates may be readmitted in the corresponding course of study at the commencement of the academic session and shall undergo one year of study and the candidates shall be granted exemption in the subjects that they have already passed.

h) With regard to candidates having a break of study of three years but less than five years shall apply for re-admission in the

prescribed form and remitting the stipulated fee for condonation to the Academic Officer of this University. The candidates may be permitted to rejoin in the previous year of study which the candidates has discontinued as the case may be with the condition that these candidates will have to undergo the prescribed one academic year of study from the date of joining and will not be granted any exemption in any subject that they have already passed.

15. MIGRATION / TRANSFER OF CANDIDATES

a) Migration / Transfer of candidates from one recognised Dental College to another recognised Dental College of this University or from another University shall be granted as per the recommendations of the Dental Council of India regulations.

b) The provision of combination of attendance shall be granted to a transferee for admission to the examinations of this University on satisfactory of the Dental Council of India regulations.

c) All migrations / transfers are subject to the approval of the Vice-Chancellor.

16. SUBMISSION OF LABORATORY RECORD NOTE BOOKS

At the time of practical / clinical examination each candidate shall submit to the Examiners his/her laboratory note books duly certified by the Head of the Department as a bonafide record of the work done by the candidate.

The practical record shall be evaluated by the concerned Head of the Department (Internal Evaluation) and the practical record marks shall be submitted to the University 15 days prior to the commencement of the theory examinations.

The candidate may be permitted by the Examiners, to refer to the practical record book during the practical examination in the subject of Bio-Chemistry only. No other materials, hand-written, cyclostyled

or printed guides is allowed for reference during the practical examinations.

In respect of failed candidates the marks awarded for records at previous examinations will be carried over for the subsequent examination or the candidates shall have the option to improve his performance by submission of fresh records.

17. INTERNAL ASSESSMENT

A minimum of four written examinations shall be conducted in each subject during an academic year and the average marks of three best performance shall be taken into consideration for the award of sessional marks.

A minimum of three practical examination shall be conducted in each subject during an academic year and an average of two best performance shall be taken into consideration for award of sessional marks.

A failed candidate in any subject, should be provided an opportunity to improve his sessional marks by conducting a minimum of two examinations in theory and practical separately and the average may be considered for improvement.

The internal assessment marks (both in written and practicals taken together) should be submitted to the University endorsed by the head of the institutions 15 days prior to the commencement of the theory examinations.

18. CLASSIFICATION OF SUCCESSFUL CANDIDATES

A successful candidate who secures 60% or above of the marks in the aggregate in his/her first appearance will be declared to have passed in the First Class in that particular subject and a successful candidate securing 75% or above of the marks in the aggregate in any subject in the first appearance will be declared to have passed the examination in the subjects with Distinction.

b) First Class may be awarded to such candidates who have passed all the subjects of the first appearance and obtained 60% of marks and above in all the subjects he/she had appeared.

c) Candidates who have passed all the subjects at the first appearance and obtained 75% of marks and above in all the subjects he/she had appeared shall be awarded First Class with Distinction.

d) All other successful candidates shall be declared to have passed in second class.

19. EXEMPTION FROM RE-EXAMINATION IN A SUBJECT

Candidates who failed in the examination but obtained pass marks in any subject shall be exempted from re-examination in that subject.

20. CARRY OVER OF FAILED SUBJECTS

a) A candidate is permitted to carry over only one subject of the I Year BDS Degree Examination to the II year BDS degree course, but shall pass all the subjects of the I year and II year BDS degree examinations before admission to the III BDS degree course.

a. i) Candidates failing on Conservative Dentistry & endodontics, practicals & vivavoce and have passed other examinations Dental anatomy, Pathology and Pharmacology will be permitted to join the III BDS course. Unless he passes this subject, he will not be permitted to appear for the III BDS examinations.

a. ii) Candidates failing in Prosthodontics practicals and vivavoce and having passed the other examinations of Dental Anatomy Pathology and Pharmacology will be permitted to join the III year BDS course. Unless, he passes this subject, he will not be permitted to appear for the III BDS examinations.

b) A candidate is permitted to carry over only one subject of the III year BDS degree examination to the IV year BDS degree course, but should pass III BDS subjects before appearing for IV BDS subjects.

c) A candidate can carry over all the Part I papers to Part II and can write all the seven subjects at the end of IV year.

21. REVIEW OF ANSWER PAPERS OF FAILED CANDIDATES

As per the regulations prescribed for other under graduate courses.

22. SUBJECTS OF STUDY

B.D.S. I Year

Paper I	Human Anatomy, Embryology and Histology
Paper II	Human Physiology and Bio-Chemistry
Paper III	Materials used in Dentistry

B.D.S. II Year

Paper I	Human Oral Anatomy, Physiology and Histology and Tooth Morphology
Paper II	General Pathology and Microbiology
Paper III	General and Dental Pharmacology and Theapeutics
	Pre Clinical Prosthodontics
	Pre Clinical Conservative Dentistry

B.D.S. III Year

Paper I	Oral Pathology and Oral Microbiology
Paper II	General Medicine
Paper III	General Surgery
Paper IV	Preventive & community Dentistry

B.D.S. IV Year

Part I	
Paper I	Orthodontics and Dentofacial Orthopaedics
Paper II	Oral Medicine, Diagnosis and Radiology
Paper III	Paedodontics

Part II

Paper I	Conservative Dentistry and Endodontics
Paper II	Periodontics
Paper III	Oral Surgery
Paper IV	Prosthodontics & Crown and Bridge

Final year Part I examinations shall be conducted at the end of six months in final year. Part II examination shall be conducted at the end of final year.

Part I subjects should be taught from the third year itself.

This is applicable to students joined in I BDS in the year 2000 - 2001 onwards.

23. ALLOCATION OF MARKS

Written	100	Marks
Practicals	50	Marks
Internal Assessment		
Theory & Practicals	20	
Record Marks	10	30 Marks
Oral	20	Marks
Total	200	Marks

24. MARKS QUALIFYING FOR A PASS

50% marks in the University written examination	50/100
50% marks in the University practical examination	25/50
50% marks in the aggregate of written, oral, practical and internal assessment	100/200

PROFORMA

Format for furnishing details of candidates in whose cases Condonation of shortage of attendance has been granted for appearing for THEORY EXAMINATIONS

Name of the College:

Academic Year for which Condonation has been granted for:

Sl. No.	Name of the Candidate (s)	Name of the Course and Branch	Total No. of working days/ hours for the year/Semester	Minimum No. of days required for attendance certificate [80%]	No. of days attended by the candidate	Actual Shortage of attendance
1	2	3	4	5	6	7
1.						
2.						
3.						
4.						
5.						

1. Requested Condonation of attendance in respect of the above candidate/s as the shortage of attendance is within the Condonation limit.

2. The Demand Draft for Rs. being the Condonation fee of shortage of attendance, drawn in favour of the Register, The Tamil Nadu Dr. M.G.R. Medical University, Madras is / are enclosed.

Date:

Signature of the Principal with College Seal

Place:

Signature of the Head of the University Departments with seal

Note:

1. The fee prescribed for Condonation of shortage of attendance is Rs. 500/- per student.

2. The forms should reach the University at least 15 days before the commencement of respective University Examinations.

3. A separate list (Three copies Degreewise) showing candidates who have not earned the required attendance and are not eligible for Condonation should also be sent at least 15 days before the commencement of Examinations

I YEAR — B.D.S.

SYLLABUS FOR ANATOMY

Introduction to Anatomy:

Terms used -

Introduction to Osteology - Epiphyses - Ossification

Introduction to Joints - all types of joints.

Muscles - Types - action - terms used.

Nervous system - Central & Peripheral

Typical Spinal Nerve.

Autonomic Nervous system.

Embryology:

Gametogenesis - The Genital systems of Male and Female

Fertilisation - when & where it occurs & its results

Ectopic & normal Implantation

Development from Zygotes to Chorionic vesicle

Formation of Notochord, Neural Tube, Neural Crest

Formation of the Trilaminar Germ Disc.

Foldings of the Embryo

Foetal Membranes - Fundamental idea

Development of Face - Nose, Lips, Oral Cavity & Jaw

Development of Branchial arches, Pouches, Clefts & their derivatives. (tongue, tonsil, Thymus, Thyroid, Parathyroid, Ear Cavities)

Development of Cranium & Vertebrae

Development of the Temporo mandibular Joint

Development of Teeth

Development of the Salivary Glands

Development of Pituitary and Pharynx

Development of the Respiratory Tract

Development of Blood Vessels of the head & neck

GROSS ANATOMY

1. Dissection:

Regional Dissection of Head & Neck
Cunningham's Manual of Practical Anatomy
Vol. 3 - latest edition is followed

2. Lectures:

- A. Osteology:
 - (i) Vertebrae in general
 - (ii) Cervical Vertebrae in detail
 - (iii) Skull - General architecture
 - Interior of Cranium
 - Exterior of Cranium
 - Norms Verticalis
 - Normal Frontalis
 - Normal Occipitalis
 - Norma Lateralis
 - Norma Basalis
 - (iv) Foetal Skull
 - (v) Individual skull Bones
 - Mandible, Sphenoid, Parietal,
 - Frontal, Maxilla, Ethmoid, Vomer,
 - Nasal, Zygomatic Temporal, Lacrimal, Occipital
 - Inferior Nasal Concha etc.
- B. Soft Parts :
 - Scalp & Temple - Muscle, Vessels & Nerves
 - Face - Muscles Vessels & Nerves (including
 - Extra - Cranial Course of VII Nerve)

Posterior Triangle - boundaries and contents
(including Brachial plexus and third part of Subclavian Artery)

Back - Suboccipital Triangle boundaries and contents.

Anterior Triangle - Subdivisions - boundaries & contents of carotid, Digastric, Submental and Muscular Triangles.

Median Region of the front of the Neck - Cervical Fascia

Anterior Jugular Vein

Platysma

Sternocleidomastoid

Cranial Cavity - Dura mater - layers - folds Dural Venous sinuses - Diploic veins

Meningeal Vessels, Emissary Veins.

Cranial Fossae and their contents.

Removal of Brain

Lacrimal Apparatus and structure of Eyelid

Orbit - Muscles, Vessels, Nerves (II, III, IV, V, VI)

Orbital Periosteum

Fascial sheath of Eyeball

Deep Dissection of Neck

Thymus

Thyroid and Parathyroid

Subclavian Artery I & II parts

Brachiocephalic Veins

Thoracic Duct, Scalene Muscles, Phrenic Nerve

Trachea

Oesophagus

Cranial Nerves - Intracranial course of VII, VIII, IX, X, XI, XII cranial nerves.

Common Carotid - its subdivisions, External carotid artery & its branches

Cervical Sympathetic Trunk

Cervical Plexus +

Lymphatic drainage of head & neck

Pre - Vertebral region

Parotid region

Temporal and infratemporal regions including Muscles of mastication and Temporomandibular Joint Submandibular region - Submandibular and Sublingual glands

Mouth & Pharynx: Roof & floor & Vestibule of the mouth

Muscles of Pharynx

Subdivisions of the cavity of Pharynx

Tonsil, Palatine, Pharyngo-tympanic tube

Adenoids, Carotid, Canal

Tongue

Nose & Nasal Cavity: Apertures, Lateral Wall, Septum of

Nose, Floor, Roof, Blood vessels - nerves

Paranasal Air sinuses

Larynx -

Wall-muscles, ligaments, cartilages

Cavity - subdivisions

Vocal cord

Organs of hearing and equilibration

External Ear

Middle Ear

Internal Ear

Eyeball -

Spinal Cord: Coverings or Meninges

Contents of Vertebral canal

Gross Anatomy of spinal cord

Regional differentiation

Blood supply

Main ascending and descending tracts and their functions.

Joints of the Neck

Brain - Meninges

Subarachnoid Cisterns

Blood supply of Brain

External surface of base of brain

Hind brain - Medulla - External, Internal Features & cranial nerves attached

Pons - External and Internal Features and Cranial nerves attached.

Cerebellum - subdivisions & functions

Fourth Ventricle

Mid Brain - External and Internal Features - Cranial nerves attached

Cerebrum - Main Sulci Gyri

White matter of cerebrum

Lateral Ventricle

3rd Ventricle

Thalamus:

Geniculate Bodies

Internal Capsule

Basal Ganglia

Upper Limb:

Names of the bones & Joints

Main Artery, Important muscles, nerves & veins

Thorax - Inlet - Outlet

Subdivisions -

Lungs & Pleura

Heart, Pericardium & its blood vessels

Diaphragm

Abdomen - Subdivisions -

Location of the abdominal organs in relation to the abdominal wall

Their blood supply & nerve supply

Histology - Structure of Epithelium - different types - connective tissue - fibres & cells

Bone

Cartilage

Muscles

Blood Vessels

Lymphatic tissue - Lymph node, tonsil, spleen & thymus

Alimentary System - Salivary glands, Tooth

Oesophagus

Stomach

Intestines - small & large

i.e., Duodenum, Ileum, Jejunum

Caecum, Appendix, Colon

Liver, Gall bladder

Pancreas

Reproductive System - Testis, Epididymis, Ductus Deferens

Prostate, Seminal Vesicle

Ovary, Oviduct, Uterus

Placenta, Mammary gland, umbilical Cord

Eye - Cornea, Retina

Ear - Cochlea

Skin - Thin skin, Thick skin

Respiratory system: Trachea, Lungs

Urinary system:

Kidney

Ureter

Urinary Bladder

Nervous system—

Spinal Cord - different levels

Cerebrum

Cerebellum

Medulla - 3 levels

Pons - 2 levels

Midbrain - 2 levels

Sensory Nerve endings

Motor nerve endings

Endocrines

Pituitary

Thyroid

Parathyroid

Supra - renal gland

Demonstration:

1. Demonstration of dissected specimens
2. Embryology models & charts
3. Embryology slides
4. Histology slides

HUMAN GENETICS INCLUDING TERATOLOGY AND SAILOGRAPHY

PHYSIOLOGY - I B.D.S. (Paper - II)

Introduction to Physiology:

The cell as the living unit of the body

Body fluid and distribution

The extra cellular fluid - composition

Homeostasis

Transport through the cell membrane

Membrane potentials and Action Potentials

Histophysiology of Epithelium connective tissue

FAT, CARTILAGE & BONE TISSUES

Blood:

Blood Volume

Composition of Blood

Composition of Plasma

Red Blood Cells

Haemorrhage - Haemolysis

Blood groups OAB/RH systems

White Cells - Types of immunity - Complement system

Blood platelets

Mononuclear - Macrophageal system

Coagulation of blood

Spleen

Cardio Vascular System

Basic Haemodynamic principles - Properties of Blood Vessels. The structure and properties of Cardiac muscle.

Origin and conduction of heart beat

Cardiac cycle

Electro cardiogram - Leads used clinically Normal pattern and interpretation.

Cardiac output Terminology, Normal values, Venous return, Distribution of Cardiac output, Factors determining and controlling cardiac output

Arterial blood pressure - Measurement of arterial blood pressure Normal values. Factors affecting and controlling arterial pressure.

Radial Pulse.

Heart rate and its regulation - Vasomotor centre, Nerves of the heart and their action.

Capillary circulation system

Physiology of shock

Special circulation: Pulmonary, Cerebral, Coronary, Skin, Hepatic Splanchnic and Renal.

Respiration

Structure of the respiratory organs

Mechanics of respiration

Subdivisions of lung air

Diffusion of gases in lungs and tissues

Transport of respiratory gases in blood

Control of respiration

Physiological modification of respiration

Role of respiration in Acid base balance

Hypoxia

Artificial respiration

Excretory System

Structure of the nephron

Volume and composition of urine

Formation of urine - glomerular filtration - tubular

secretion and reabsorption.

Renal function tests

Role of Kidney in Homeostasis of body fluid volume and composition

Micturition

Dialysis.

Endocrines

General chemistry of hormones

Thyroid gland

Parathyroid gland

Endocrine Pancreas

Adrenal glands

Pituitary gland - Hypothalamus

Pineal gland

Kidney

Thymus

Local Hormones : Prostaglandins, Kinins

Reproduction

Male reproductive system

Androgens

Spermatogenesis

Female reproductive system

Menstrual cycle

Pregnancy

Lactation

Contraception

Muscle and the Nervous system

Skeletal muscle structure and properties

Muscle contraction & relaxation.

Smooth muscle: types, Structure properties

Structure and function of the nervous tissue

Reflex action

Sensory nervous system

Regulation of posture

Cerebellum

Cerebral cortex

Voluntary movement

Basal Ganglia

Thalamus & Hypothalamus.

Brainstem spinal cord
 Limbic system
 Electroencephalogram
 Autonomic Nervous system
 C.S.F.

Special senses

Digestion

Structure of the digestive tract - Salivary glands
 Saliva composition and functions
 Regulation of salivary secretion
 Digestion in the mouth
 Digestion in the stomach
 Exocrine functions of Pancreas
 Digestion in the intestine
 Absorption in the intestine
 Movements of alimentary canal, Deglutition
 Defaecation
 Structure and functions of Liver

PHYSIOLOGY PRACTICALS AND DEMONSTRATIONS

I B.D.S.

1. Enumeration of Red Blood Cells
2. Enumeration of White Blood Cells
3. Differential Leucocyte Count
4. Determination of Haemoglobin
5. Determination of Blood Groups
6. Determination of bleeding time and clotting time
7. Clinical examination of chest
8. Determination of pulse and Blood Pressure

Demonstration

1. Properties of excitable tissues
 skeletal muscle
 Cardiac muscle
2. Activity of Frog's heart effects of vagal stimulation and of atropine and adrenaline
3. Perfusion of Frog's heart effects of sodium calcium and potassium ions.

SYLLABUS FOR B.D.S.

BIOCHEMISTRY

ACID BASE REGULATION:

Acids and Bases, weak acid and strong acid, Dissociation constant of acids, --- Actual acidity and Total acidity - Dissociation of water and the concept of pH -- the pH scale - pKa of acids. Buffers and their mode of action. The Henderson - Hassel Balch equation -- the buffer system in blood - Regulation of pH by respiratory and renal systems. Acidosis - Alkalosis. Metabolic and Respiratory.

CHEMISTRY OF PROTEINS, CARBOHYDRATES & LIPIDS:

Proteins:

Functional diversity -- composition of proteins -- the size of protein molecules -- their building blocks - Protein Amino acids. Classification of α Amino Acids - R - groups of Amino acids - Non polar, uncharged polar side chains, Acidic R - groups and basic R - groups --- optical properties of Amino Acids - Acid Base properties of Amino Acids. Zwitter ion and isoelectric pH. D & L forms of Amino acids - optical activity -- α Keto Acids of common Amino acids - Primary amines derived from Amino acids.

Protein structure -- the peptide bond - Primary structure - amino - terminal & C - terminal Amino acids the effect of amino acid substitution in the primary structure. Rudimentary knowledge of secondary, tertiary and Quaternary structure - Protein conformation - Globular proteins and fibrous proteins - Protein denaturation. Simple proteins and conjugated protein.

Plasma proteins - Immunoglobulins.

CARBOHYDRATE (CHEMISTRY)

Classification and nomenclature -- Aldoses and ketoses - Trioses, Tetroses, Pentoses, Hexoses and Heptose. Examples of biologically important compounds.

Stereoisomerism - Epimers - D & L forms - optical activity - Ring form of sugars Mutarotation -- α & β configuration - Reducing property of sugars - oxidation and reduction reactions - formation of uronic acid aldonic acids.

Deoxy sugars - Polyols like sorbitol and mannitol - Biologically important disaccharides, Sucrose, Lactose and Maltose. Polysaccharides, Starch and Glycogen. Glycosidic linkage - Mucopolysaccharides or Glycosaminoglycans - Hyaluronic acid, Heparin, Chondroitin sulfate their chemical nature and - biological importance.

LIPIDS (CHEMISTRY)

Criteria for Lipid - classification - fatty acids. Short and long chain fatty acids. Saturated fatty acids - Palmitic acid and stearic acid - Monounsaturated fatty acid - Polyunsaturated fatty acid - Essential fatty acid, Fat, or Triglycerides or Triacylglycerol - simple and mixed. Melting points. Phospholipids - Glycerophosphatides - amphipathic properties. Sphingomyelins - Cerebrosides - their nature. Sterols - Cholesterol and related compounds - Bile acids, Androgens, Estrogens, Progesterone, Cortisol Aldosterone and Vitamin D.

NUCLEIC ACIDS:

Elementary knowledge of DNA & RNA - Base composition. Nucleosides & Nucleotides - Basic structure of DNA - Different types of RNA. Introduction to the biological triad, DNA $\rightarrow$ RNA $\rightarrow$ Protein. Genetic Code -- Basic reactions leading to protein biosynthesis - Replication - Transcription - Translation - Antimetabolites and Antibiotics that inhibit protein biosynthesis.

METABOLISM OF NUCLEIC ACID:

General outline of the synthesis and catabolism of Purines and Pyrimidines in man.

VITAMINS:

The vitamin concept. Chemical nature, dietary sources. Requirements (R.D.A.), functions and deficiency manifestations of fat soluble and water soluble vitamins. Hypervitaminosis.

ENZYMES:

Definition, classification, specificity of enzyme catalysed reactions. Cofactors - mode of action of enzymes - Fischer's Lock and Key theory and Koshland's Induced Fit Model - factors affecting enzyme catalysed reaction - Michaelis - Menton equation - Enzyme inhibition - Competitive and allosteric - Isoenzyme - Enzyme of clinical importance.

MINERALS:

Bulk minerals and Trace minerals. Sources, functions, requirements absorption with reference to calcium, Phosphorus and Iron. Biological function of minerals like sodium, potassium, magnesium, Iodine, copper, zinc and fluoride.

BIOLOGICAL OXIDATION OR TISSUE RESPIRATION:

The structural organization of Mitochondria - Power house of the cell - Hydrogen carrier or Electron transport system. Redox potential concept of free energy - High and low energy compounds -

oxidative phosphorylation and substrate level phosphorylation. ATP as the common currency of bioenergetics. Inhibitors of oxidation and uncoupling of oxidative phosphorylation. Xygenases and the microsomal cytochrome P-450 and the Mitochondrial P-450 monooxygenase systems.

HEMOGLOBIN AND PORPHYRINS:

Importance of porphyrins - outline of the steps involved in the biosynthesis of Heme. Catabolism of Heme - The transport, circulation of bile pigments and excretion. Jaundice. Nature of Hemoglobin - Properties & functions - Common Hemoglobin Variants.

NUTRITION:

BMR - specific dynamic action. Caloric value of foods. Computing caloric requirements Balanced diet - carbohydrate factor - fat in the diet. Protein nutrition. Essential Amino Acids. Nitrogen Balance - Quality of protein - Biological value of protein - Protein Malnutrition - Obesity -- Vitamins & Minerals requirement.

CARBOHYDRATE METABOLISM:

Chemical process involved in the digestion of dietary carbohydrates and their absorption Glucose as the major sugar in the body - Utilization of Glucose - Oxidation - Glycolysis and Aerobic Oxidation in Citric Acid Cycle - Glycogenesis - Lipogenesis - their cellular and hormonal control - cyclonic AMP Glycogenolysis and Neoglucogenesis. Role of Liver in carbohydrate metabolism. Regulation of blood sugar level. Glycosuria - Glucose tolerance test and its importance.

LIPID METABOLISM:

Digestion and absorption of dietary Lipids. Transport of lipids in serum. Lipoproteins Metabolism of adipose tissue - β oxidation of fatty acids - formation and metabolism of ketone bodies - ketosis. Outline of fatty acid synthesis - Cholesterol metabolism. Absorption, transport, general outline of cholesterol synthesis, its regulation.

Excretion of cholesterol - Bile Acids - compounds of biological importance that are formed from cholesterol - Vitamin D and steroid hormones. Serum Cholesterol and its relation to Atherosclerosis.

PROTEIN METABOLISM:

Digestion of proteins and the absorption of Amino acids. Amino acid pool - Protein turn over. Removal of Nitrogen from Amino Acids. Transamination - Role of Glutamate - oxidative deamination by Glutamate dehydrogenase. Disposal of ammonia - urea cycle - Importance of Glutamine - Catabolism of the carbon skeleton of Amino Acids. Glucogenic and Ketogenic amino acids. Catabolism of phenylalanine and Tyrosine to illustrate inborn error of metabolism. Formation of the following specialized products. 1. Thyroxine, 2. Catcholamines, 3. Creatinine, 4. Histamine, 5. Serotonin, 6. GABA, 7. Melanin Transmethylation and its biological importance.

DETOXICATION REACTIONS (METABOLISM OF XENOBIOTICS)

PRACTICAL

Reactions of Carbohydrates, lipids and proteins
Properties of haemoglobin, bile salts and bile pigments
Starch: Hydrolysis by acids
Blood sugar and urea, serum creatinine and total proteins - estimation.
Milk analysis - Biochemical Machines of Milk
Normal and abnormal urine: analysis
Lecture demonstration (to be recorded in the record note Book)
BMR, electrophoresis of plasma proteins
Chromatography - amino acids and sugars
Photometry
Gastric, liver and renal function tests
TTT
Gastric analysis - total acids and free acids - clinical importance

PAPER - III

MATERIALS USED IN DENTISTRY

I B.D.S.

1. Performance Standards for Dental Materials.
2. Structure of Matter and Principles of Adhesion.
3. Physical Properties of Dental Materials.
4. Mechanical Properties of Dental Materials.
5. Biocompatibility of Dental Materials.
6. Hydrocolloid Impression Materials.
7. Nonaqueous Elastomeric Impression Materials.
8. Inelastic Impression Materials.
9. Gypsum Products
Chemistry of Setting, Basic Principles, and Technical Considerations.
10. Chemistry of Synthetic Resins.
11. Denture Base Resins
Technical Considerations and Processing Techniques.
12. Restorative Resins.
13. Bonding.
14. Solidification and Microstructure of Metals.
15. Constitution of Alloys
16. Corrosion.
17. Dental Amalgam
Structures and Properties

18. Dental Amalgam
Technical Considerations
19. Direct Filling Gold and Its Manipulation.
20. Dental Casting Alloys
21. Inlay Casting Wax
22. Investments for Small Castings.
23. Casting Procedures for Dental Alloys.
24. Dental Cements for Restoration and Pulp Protection
25. Dental Cements for Bonding and luting Applications
26. Dental Ceramics.
27. Soldering
28. Wrought Base Metal and Gold Alloys
29. Dental Implants.
30. Mechanics of Tooth cutting, Burs & diamond Points.
31. Finishing and Polishing Materials.
32. Dental Waxes.
33. Welding.
34. Die Materials.

I YEAR B.D.S. - MATERIALS USED IN DENTISTRY

PRACTICALS:

MANIPULATION AND MIXING OF THE FOLLOWING DENTAL MATERIALS:

1. Dental Plaster
2. Dental Stone.

3. Investments - All types.

4. Impression materials

- Impression Compound.
- Reversible Hydrocolloids - heating and conditioning.
- Irreversible Hydrocolloids.
- Zinc Oxide Eugenol paste.
- Elastomeric Impression materials:

5. Denture Base Materials.

- Heat cure acrylic resin.
- Cold cure acrylic resin.

6. Cements

- Zinc Oxide - Eugenol cement.
- Zinc Phosphate cement.
- Zinc Poly Carboxylate cement.
- Glassionomer cement
- Resin Cement.
- Silver Amalgam.

DEMONSTRATION:

- Welding.
- Soldering.
- Annealing.
- Pickling.
- Investing.
- Casting procedure

SYLLABUS - II B.D.S.

I. HUMAN ORAL ANATOMY, PHYSIOLOGY, HISTOLOGY & TOOTH MORPHOLOGY (PAPER —I)

- Development and growth of face, teeth and jaws
- Development of enamel, dentine, cementum, pulp and periodontal membrane.
- Calcification of hard tissues of the teeth
- Microscopic anatomy of hard and soft tissues of the tooth and surrounding structures.
- Microscopic anatomy of hard and soft tissues of the oral cavity such as lips, tongue, floor of the mouth, palate, salivary glands, alveolar bones etc.
- Mastication and deglutition.
- Age changes in teeth and surrounding structures.
- Shedding of the deciduous teeth.
- Eruption of permanent teeth.
- Chronology of dentition.
- Form and arrangement of teeth - occlusion.
- Functional anatomy of the oral cavity.
- Temporomandibular joint
- Evolution of the jaws and teeth.
- Chemical composition of teeth.

xvi) Calcium, phosphorus and flouride metabolism.

xvii) Effect of hormones on oral tissues.

xviii) Influence of diet on oral structures

xix) Saliva

PRACTICAL: Carving of deciduous and permanent teeth

Identification of the teeth

Microscopic appearance of normal oral soft & hard tissues

DEMONSTRATION

Preparation of Ground Sections of the teeth

Preparation of decalcified sections of hard tissues

Preparation of section of soft tissues

GENERAL PATHOLOGY AND MICROBIOLOGY - II B.D.S

(PAPER II)

- i) Introduction of Pathology
- ii) Causes of disease
- iii) Cell response to injury
- iv) Inflammatory reactions
- v) Tissue response to infection
- vi) Wound healing
- vii) Healing of fracture
- viii) Pyogenic infection
- ix) Tuberculosis, Syphilis, Actinomycosis, Leprosy, Fungal
Viral diseases

x) Disorders of growth

xi) Neoplasia with important lesions

xii) Cysts and tumours

xiii) Disorders of Metabolism

xiv) Haemorrhage and shock

xv) Disorders of nutrition

xvi) Endocrine disturbances relevant to Dentistry

xvii) Disorders of calcium metabolism

xviii) Thrombosis and embolism

xix) Oedema

xx) Infarction

xxi) Elements of Haematology

xxii) Pigments

xxiii) Calculi

xxiv) Effects of radiation

MICROBIOLOGY

- i) Basic Characteristics of Micro organisms
- ii) Introduction to Bacteriology
- iii) Media, Culture and sensitivity methods
- iv) Sterilization and disinfection
- v) Oral microbial flora
- vi) Staphylococci
- vii) Streptococci
- viii) Gram positive and negative bacilli

- ix) Spirochaetes
- x) Actinomycetes
- xi) Basics of Virology
- xii) Organisms causing tetanus, gas gangrene and dental caries.
- xiii) Common Parasites
- xiv) Basics of Immunology
- xv) Blood - Immunology
- xvi) Vaccines and Sera
- xvii) Pyaemia, Septicaemia and Toxaemia
- xviii) Fungal infections

MICROBIOLOGY — PRACTICALS II B.D.S.

1. Gram Staining
2. Acid Fast Staining
3. Spotters

PATHOLOGY - PRACTICALS II B.D.S.

URINE EXAMINATION.

- Benedict's Test
- Test for Protein
- Rothera's Test
- Ray's Test
- Smith's Test
- Benzadine Test

BLOOD

- Blood counts; RBC, WBC, DLC
- Immature Cells

SLIDES

- Actinomycosis
- Carcinoma
- Ameloblastoma
- Fibroma
- Thrombosis
- Haemangioma
- Granulation Tissue
- Ulcerations
- Degeneration
- Acute inflammation
- Chronic inflammation
- Pathology of liver, spleen, glands, lungs
- Melanoma
- Chondroma
- Teratoma
- Papilloma
- Rhinosporidium
- Filarial Lymphadenopathy
- T.B. Lymphadenopathy
- Hodgkins disease
- Atherosclerosis.

GENERAL & DENTAL PHARMACOLOGY & THERAPEUTICS

(PAPER - III)

1. General Pharmacology

- a) General principles of Pharmacology
- b) Drug Receptors & Pharmacodynamics
- c) Pharmacokinetics
- d) Drug Biotransformation
- e) Dosage forms and routes of drug administration.
- f) Adverse drug reactions

2. Drugs acting on Central Nervous System

- a) General Anaesthetics
- b) Sedatives - Hypnotics and Antianxiety Drugs.
- c) Analgesics
 - Narcotic
 - Non - Narcotic (NSAID)
- d) Antiepileptic drugs
- e) Analeptics

3. Drugs acting on Peripheral Nervous System

- a) Cholinergic receptor stimulants
- b) Cholinergic receptor Antagonists
- c) Adrenergic receptor activating drugs
- d) Local Anaesthetics
- e) Skeletal muscle relaxants

4. Anti - infective Agents

- a) Sulfonamides & Trimethoprim
- b) Metronidazole & Tinidazole
- c) Antibiotics
- d) Cancer Chemotherapy

5. Local anti - infective agents

Disinfectants and Antiseptics including antifungal and Antiviral agents.

6. Drugs acting on Cardiovascular System.

- a) Drugs in Congestive Cardiac failure
- b) Antihypertensive drugs
- c) Vasodilators and Vasoconstrictors
- d) Drug therapy of shock
- e) Diuretics

7. Drugs acting on Haemopoetic System

- a) Iron, Vitamin B12 & Folic acid
- b) Haemostatic Agents & Anticoagulants
- c) Fibrinolytic Agents and Antiplatelet drugs

8. Drugs acting on the Endocrine System

- a) Hypothalamic and Pituitary Hormones
- b) Insulin and antidiabetic drugs
- c) Thyroid and Anti-Thyroid drugs
- d) Parathormone, Calcitonin, Calcium & Vitamin D
- e) Adrenocorticosteroids
- f) Sex Hormones

9. Autocoids

- a) Histamine and Antihistaminics
- b) Serotonin
- c) Prostaglandins

10. Drugs acting on Gastro intestinal Tract

- a) Emetics and Antiemetics
- b) Antidiarrhoeal
- c) Drugs used in Constipation

11. Drugs acting on Respiratory System.

- a) Bronchodilators
- b) Antitussive Agents.

12. Vitamins

13. Drugs acting on Immune system

14. Miscellaneous Agents.

- Astringents
- Obtundents
- Mummifying Agents
- Styptics
- Disclosing solutions
- Dentifrices & mouth washes
- Bleaching agents.

15. Prescription writing.

- Water electrolytes and drugs affecting renal function .17 Nutritional supplement therapy .18 Modern antibiotics .19 oral contraceptives .20 Miscellaneous Therapeutic gases O_2 & Co^2 .21 Enzymes in therapy .22 Drugs in pregnancy & new born .23 chelating agents .24 fluorides

PHARMACOLOGY - PRACTICALS

- Preparation of Mouth washes
- Preparation of gum paints
- Analgesic powder
- Dentifrices
- Antiseptics
- Pulp mummifying paste
- Pulp capping agents

SYLLABUS FOR PRE-CLINICAL PROSTHODONTICS
1st AND 2nd YEAR BDS DEGREE COURSE

Teaching pre-clinical prosthetics commences from the 1st year BDS

THEORY:

Weekly one session i.e., one hour theory class in basic complete denture Prosthodontics

PRACTICAL:

Weekly three sessions of practical class of two hours duration.

TOTAL NO. OF THEORY AND PRACTICAL CLASSES**IN THE 1st YEAR:**

There will be 40 Hrs theory class and 240 Hrs of practical classes.

PRACTICALS: EXERCISES:

- One upper and one lower dentulous casts with alginate impression.
- One upper, one lower dentulous casts using impression compound.
- Marking anatomical land marks on the edentulous casts.
- Special trays (Using shellac plate or acrylic resin materials).
- Construction of record bases (using shellac base plate or acrylic).
- Mounting of U/L Casts with occlusal rims in class I relation using fixed condylar path articulators.
- Arrangement of teeth.

8. Waxing, Carving & Polishing of wax setup.
9. Flasking, Dewaxing, Packing & Curing.
10. Deflasking; Trimming & Polishing of Acrylic Dentures.

I YEAR PRE-CLINICAL PROSTHODONTICS

Theory

Weekly one hour of theory classes on removable and fixed partial denture prosthodontics.

PRACTICAL:

Weekly one practical of removable prosthodontics and one for fixed partial denture prosthodontics.

TOTAL NO. OF CLASSES:

Theory and Practical.

THEORY CLASSES: 40 hours of theory classes.

PRACTICAL:

2 session per week or 4 hours per week.

TOTAL:

160 hours of practical in the second BDS pre clinical prosthodontics course (i.e. 80 Hrs of practical for removable partial denture and 80 Hrs for crown and bridge prosthodontics.)

IInd YEAR PRACTICAL SYLLABUS:

1. Repair of Lower complete denture.
2. Relining and Rebasing of upper complete denture.
3. Construction of Kennedy Class IV Acrylic partial denture.
4. Construction of Kennedy class I (Lower)
5. Construction of Kennedy class II cast partial denture (Frame Work only)
6. 3 C.D. settings as preliminary training for University exams.

SYLLABUS FOR PRE CLINICAL CROWN AND BRIDGE PROSTHODONTICS

1. Preparation of Tooth for Jacket crown on Maxillary Anterior tooth.
2. Construction of jacket crown.
3. Preparation of Mandibular molar for full veneer crown.
4. Construction of full veneer crown.

II BDS Practical Prosthodontic Examination

No theory Examination

Internal Assessment	-	30	marks
Viva Voce	-	20	marks

Practicals	- 50 marks (minimum of 25 marks for a pass)
Total	100 (minimum of 50 marks for a pass)

Practical duration 3 hours.

Candidates failing in Prosthodontics Practicals and Vivavoce and having passed other examinations of Dental Anatomy, Pathology and Pharmacology will be permitted to join the III year BDS course. Unless, he passes this subject, he will not be permitted to appear for the III B.D.S. Examinations.

SYLLABUS FOR PRE-CLINICAL CONSERVATIVE DENTISTRY & ENDODONTICS IInd YEAR BDS DEGREE COURSE

Teaching of preclinical conservative Dentistry & Endodontics commences from the beginning of II year B.D.S. Course.

THEORY:

1. Weekly one session - 1 hour duration.
on the subjects mentioned in the list enclosed

PRACTICALS:

1. Weekly two sessions - 1½ hour duration & 1 session ½ hour after 1 hour lecture.

Training on Plaster Blocks and Plaster models decided by Teaching Staff.

Training to be imparted to the students of II year B.D.S. on phantom head fitted with one Upper & Lower Jaw - Teeth either natural (Extracted teeth) or Teeth acrylic.

Phantom heads are provided to simulate the head & Jaws of the living patient. The teeth are treated by the student in the same way as it is done for the clinical patient by making use of various hand instruments for retraction of the jaw, for reflection of the light, and airtor handpiece with high speed cutting efficiency mounted with friction grip burs of standard recommended sizes.

They are also trained to use three in one syringe for washing & drying the prepared tooth cavity. The students are trained to arrange and use the hand cutting instruments as done by a Clinical Conservative Dentist.

Total number of Theory Classes - 30 hours.

Number of Practicals Classes - 90 hours.

The subject of Conservative Dentistry for the II Year B.D.S.

LECTURE CLASSES:

1. Introduction to Operative Dentistry.
2. Glossary & its Significance.
3. Tooth Designation & System Followed.
4. Classification of caries.
5. Basic principles in cavity preparation.
6. Instruments & Equipment for Tooth Preparation.
7. Cavity preparation for Amalgam.

8. Cavity preparation for Inlay.
9. Tooth preparation for tooth coloured Materials.
10. Matrices and Retainers.
11. Deep caries Management.
12. Introduction to Rootcanal Treatment and Pulpotomy.
13. Operators Position, and Chair Position for the patient.
14. Basic aspects of sterilization of Instruments and Equipment.
15. Basic aspects of management of various restorative materials. (Amalgam, Cement, Glassionomer, Composites).

DEPARTMENT OF CONSERVATIVE DENTISTRY

EXERCISES FOR PRECLINICAL TRAINING - II YEAR B.D.S.

- | | | | | |
|--------------|---|--|---|----------------------|
| Exercise I | : | Excavation of Deep Caries & Indirect Pulpcapping | : | One Molar Tooth - 1. |
| Exercise II | : | Excavation of Deep Caries & Direct Pulpcapping | : | One Molar Tooth - 1. |
| Exercise III | : | Pulpotomy on One Molar tooth | : | - 1. |
| Exercise IV | : | Class I preparations to receive Silver Amalgam | : | One Lower Molar - 1. |
| | | One Lower Molar with Buccal Extension - 1. | | |
| | | One Lower Premolar - 1. | | |
| | | One Upper Molar - 1. | | |

- Exercise V : Class II preparation for Silver Amalgam.

One Lower Molar (Mesio Occlusal) - 1.

One Lower Premolar (Disto Occlusal) - 1.

One Upper Molar (Disto Occlusal) - 1.

- Exercise VI : Class III preparation for tooth Coloured Material

One Upper Central Incisor (Palatal Approach) - 1.

One Lower Central Incisor (Labial Approach) - 1.

- Exercise VII : Class V Preparations

One Upper Canine - (Tooth Coloured Material) - 1.

One Lower Molar (Amelgam)

- Exercise VIII : Inlay Preparation

One Lower Molar (Mesio Occluso Distal) - 1.

One Upper Molar (Occlusal) - 1.

- Exercise IX : Access cavity preparation

One Upper Lateral Incisor - 1.

Exercise : Demonstration on Fractured teeth
One Natural Central Incisor:
Restoration by light cure Material - 1.

(Two session of 1½ hours duration each & one session of ½ hour followed by lecture)

PRACTICAL CONSERVATIVE DENTISTRY & ENDODONTIC EXAMINATION

All II year B.D.S. students will complete their training at the end of one academic year and will appear for University Examination for completing of II year B.D.S. course.

THERE WILL NOT BE ANY THEORY EXAMINATIONS

Internal Assessment	- 30 marks
Practical Examination	- 50 marks (minimum of 25 marks for a pass)
Viva voce	- 20 marks
Total	- 100 marks (minimum of 50 marks for a pass)

Duration of the examination - 3 hours.

Candidates failing on Conservative Dentistry & Endodontics, Practicals and Viva voce and having passed other examinations Dental Anatomy, Pathology and Pharmacology will be permitted to join the III year BDS course. Unless, he passes this subject, he will not be permitted to appear for the III BDS examinations.

SYLLABUS

THIRD B.D.S

1. ORAL PATHOLOGY & MICROBIOLOGY (PAPER—I)

1. Aims and objectives; 2. Developmental disturbances of dental, oral and para-oral structure including hereditary disorders, 3. Dental Caries, 4. Pulpal and periapical pathosis and their sequelae, 5. Environmental lesions of the oral and para-oral structure, 6. Defence mechanism of oral tissues and healing following injuries, 7. Diseases of periodontal ligament, gingivae and cementum, 8. Effects of nutritional disturbances and hormonal disorders on the oral and para-oral structures, 9. Infectious diseases of oral mucosa, 10. Bone disorders affecting jaws, 11. Cysts of oral cavity, 12. Precancerous lesions - etiology and pathology, 13. Neoplasms of Oral cavity, 14. Diseases of salivary and lymph glands, 15. Diseases of Temporomandibular joint, 16. Diseases of Nerves, skin, blood and their implications of Oral Tissues, 17. Effects of radiation on oral and para-oral tissues, 18. Oral Microbiology, 19. Important syndromes of oral cavity and associates, 20. Oral manifestation in systemic disorders, 21. Diseases of Maxillary sinus, 22. Oral ulcers and stomatitis including alveolar bone, 23. Oral manifestation of AIDS, 24. Auto immune disease, 25. White lesions & bullous lesions, 26. Oral Virology.

Practicals:

- (1) Identification of hard and soft tissue specimen.
- (2) Identification of histo pathological and microbiological slides.
- (3) Biopsy and Exfoliative cytology technique

Lectures		50 Hours
Practicals		90 Hours
Total		140 Hours

2. GENERAL MEDICINE (PAPER - II)

Introduction:

Aims of Medicine, Definition of diagnosis, prognosis and treatment. History taking and physical examination of a medical case. Medical emergencies in dental practice.

G.I. Disorders:

Stomatitis, Glossitis, gastritis, Diarrhea, Amoebiasis, Ascites, malabsorption syndrome.

Liver:

Jaundice, Viral hepatitis, cirrhosis liver, Tender hepatomegaly.

Cardiovascular System:

Congenital heart disease, classification, Rheumatic heart disease, subacute bacterial endocarditis. Congestive heart failure, Left Ventricular failure. Hypertension. Coronary artery disease.

Respiratory System:

Pneumonia, Bronchitis, Emphysema, Lung Abscess, Eosinophilic Pulmonary Embolism, Pulmonary Tuberculosis, Respiratory Failure.

Renal Diseases:

Acute glomerulo Nephritis, Nephrotic syndrome.

Hematology:

Anaemia, Coagulation defects, Bleeding disorders, Agranulocytosis, Leukemia, Oral manifestations of hematological disorders, lymphadenopathy and splenomegaly.

Central Nervous System:

Meningitis, Facial palsy, facial pain, epilepsy. Head ache, syncope.

Nutritional and Metabolic:

Balanced diet, normal daily Protein, Caloric, requirements. Malnutrition Avitaminosis. Diabetes mellitus, calcium homeostasis.

Endocrine Disorders:

Hypo Thyroid & Hyper thyroid, Hypo and Hyperpituitary - Hypo and Hyper parathyroid.

Infections:

Eneric fever - Mumps - Viral exanthemata - Diphtheria - STD

Miscellaneous:

Allergy - Drug reactions - Drug inter actions - Evaluation of a case for general anaesthesia

Bronchiectasis; Lung Cancer; Oral manifestation of systemic disorders.

Lectures		50 Hours
Practicals		90 Hours
Total		140 Hours

3. GENERAL SURGERY (PAPER—III)

1. Introduction to Surgery, Classification of diseases, 2. Inflammation, soft tissue and hard tissue-causes, varieties sequelae and treatment, 3. Infections - Acute and Chronic. Abscess, Carbuncle, Sinus, Fistula, Ulceration, Gangrene, Cellulitis, Erysipelas

Septicaemia, Pyaemia, Toxaemia, Cancrum Oris, Tuberculosis, Syphilis, Gonorrhoea, Actinomycosis, Anthrax, Tetanus, 4. Wounds - complications, Treatment, Repair, Asepsis and Antiseptic Measures and procedure. Haemorrhage and its treatment. Haemophilia, Syncope, Shock, Collapse, Head injury - Introduction, 5. Cysts and new growths - Their general consideration, 6. Diseases of the Lymphatic glands, 7. Out line of diseases of the mouth, lips, tongue, palate, tonsils and salivary glands, 8. Infections and diseases of the Larynx, Tracheostomy, 9. Nervous system injury to Facial nerves, paralysis, Trigeminal Neuralgia, 10. Principles of Surgical treatments, diathermy and radium treatment, 11. Fracture - General Principles of treatment, 12. Cleft lip and cleft palate, 13. Thyroid and parathyroid, 14. Swellings of jaws, care of the acutely injured, 15. Use of C.T. Scan, MRI & Ultrasonography in evaluation of lesions of head & neck, 16. Grafts, 17. Suturing, 18. Resuscitation methods; first aid, 19. Burns, 20. Blood transfusion, 21. Benign & malignant lesion of the jaws.

(i) Case Sheet writing and Demonstrations

(ii) Ward procedure, including wound dressing

Lectures 50 Hours

Practicals 90 Hours

Total 140 Hours

4. PREVENTIVE AND COMMUNITY DENTISTRY (PAPER - IV)

1. Bio - Statistics:

Introduction and General Principles of Bio - statistics. Statistical procedures.

2. Psychology:

Introduction of Psychological development from birth to adolescence. Management of child in the dental office. Parent counselling in respect of dental health and hygiene of the child.

3. Public Health:

Concept and Philosophy of public health, Public Health in India.

General Epidemiology - Health Education, environmental health, disposal of wastes, water, norms for potability, purification.

4. Preventive Dentistry:

Prevention, levels of prevention, various measures in the prevention of dental and oral diseases at individual and mass level.

5. Public Health Dentistry:

Introduction, definition, objectives, functions of public health dentistry, procedural steps in dental public health, indices for dental disease, surveying and evaluation epidemiology of dental caries, Periodontal diseases, oral cancer. Utilisation of dental man-power, payment for dental care, public dental health programme, school dental health programme Dental Health services of State and Centre. Private practice administration. Ethics Dental council and association. Epidemiology of periodontal diseases and parameters used in clinical and population studies. Forensic odontology, computers in Dentistry.

Cultural Anthropology objective, different aspects of Folk medicine and popular medicine, Cultural Pattern and complexes, taboos, as related to health.

Field Programme:

1. In rural areas to conduct survey of Dental diseases, provide dental Health Education, Emergency treatment.

2. School - Health Programme, Dental care and preventive dentistry for School Children Topical fluoride application and oral hygiene demonstrations.

Lectures 30 Hours

Fed Programme 100 Hours

SYLLABUS — FOURTH (FINAL) B.D.S

1. CONSERVATIVE DENTISTRY AND ENDODONTICS

Definition & scope, Oral hygiene in relation to conservative dentistry. Instruments - nomenclature, design and formulae, care and sterilisation. Examination, diagnosis and treatment planning. Charting and recording of cases, cavities classification and nomenclature. Choice of filling materials, Principles of cavity preparation. Control of pain, prevention of damage to hard and soft tissues during Operative procedures. Methods employed for exclusion of saliva. Bio Mechanics of cavity design and restoration with filling materials. Pulp and soft tissue protection. Airtors and high speed equipment. Cavity preparation for various types of restorations including inlays and onlays. Restorative procedures. Matrices. Drugs used in the conservative Dentistry. Fractured teeth and their treatment. Sensitive dentine, its treatment. Ceramics in conservative Dentistry.

ENDODONTICS

Rationale of endodontic therapy, Diagnostic aids in Endodontics Care and sterilisation of instrument for endodontic Treatment of Vital and non-vital pulp. Tests for sterility of the root canal. Drugs used in root canal therapy. Bleaching of teeth. Restoration of endodontically treated teeth. Surgical treatment in endodontics.

Lectures 70 hours

Clinicals 240 hours

2. ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

1. Definitions, aims, objects and scope of Orthodontics. Growth and Development of jaws, teeth, face and skull and establishment of normal occlusion, 3. Genetics as applied to Orthodontics, 4. Normal occlusion and its characteristics. Factors responsible for establishment and maintenance of normal occlusion, 5. Malocclusion - type & Different classifications, 6. Aetiology of malocclusion. 7. History taking and examination of patient and case analysis and differential diagnosis including cephalometrics and treatment planning, 8. (a) Preventive and interceptive treatment of malocclusion, (b) Extraction for Orthodontics, 9. Appliances, used in orthodontic treatment - Adequate knowledge of (a) removable appliances, (b) Mechanical appliance, (c) functional appliances. 10. Tissue changes incident to Orthodontic treatment, 12. Materials used in Orthodontia, 13. Habit breaking appliances, 14. Computers in orthodontics, 15. Sterilization in orthodontics, 16. Fixed functional appliances, 17. Surgical orthodontics, 18. Failures in orthodontic therapy, 19. An outline of fixed appliance.

Lectures 40 hours

Practical & Clinical 240 hours

The teaching of Orthodontia clinic and Practicals should be arranged during III BDS and final B.D.S.

3. ORAL MEDICINE ORAL DIAGNOSIS AND RADIOLOGY

Oral Medicine, Oral Diagnosis

1. Scope and importance of the subject, 2. Methods of diagnosis including special investigations, 3. Acute infections of Oral and para-oral structures, 4. Blood dyscrasias and their management, 5. Management of Cardiac patients in dentistry, 6. Metabolic and endocrine disturbances, their oral manifestations, 7. Nutritional deficiencies and their significance in dentistry, 8. Oral sepsis and its

effect on general system, 9. Disfunctions of Temporomandibular joints, 10. Cervico facial lymphadenopathy, 11. Diseases of salivary glands, 12. Facial pain, 13. Cysts and tumours of the oral cavity, 14. Oral manifestation of dermatological and other systemic disturbances, 15. Special investigations, 16. Immune concepts of oral lesions, 17. Forensic odontology.

Lectures 25 hours

Clinicals 150 hours

Dental Radiology:

1. Physics of radiation - production and properties of X-ray, 2. Principles of X-ray techniques and factors for Radiography and Fluoroscopy, 3. Technique of intra - oral and extra - oral Radiography and normal anatomical landmarks, 4. Radiological interpretation of abnormal dental and jaw conditions, 5. Elements of Radiation treatments in oral, facial conditions and their sequelae including radioactive traces. 6. Sialography.

Lectures 15 hours

Clinicals 90 hours

4. PERIODONTIA

1. Introduction
 - Definition of Periodontology
 - Periodontics - Periodontia
 - Brief historical background
 - Scope of periodontics
2. Development
 - Gingiva; Junctional epithelium in Detail
 - Microstructure,
 - Epithelial - Mesenchymal interaction
 - Anatomy and Biology of
 - Periodontal ligament

Periodontal - Cementum
Tissues in detail - Alveolar bone

3. Defence mechanisms in the oral cavity
 - Role of - Epithelium
 - Gingival fluid
 - Saliva and other defensive mechanisms in the oral environment
4. Age changes in periodontium
 - Age changes in teeth and Periodontal structures
 - significance in Geriatric dentistry
5. Classification of Periodontal diseases.
 - Need for classification, Scientific basis of classification.
 - Classification of gingival and Periodontal diseases as described in world workshop 1989.
 - **GINGIVITIS:**
Plaque associated, ANUG, Steroid hormone influence, Desquamative gingivitis, other forms of gingivitis as in nutritional deficiency, bacterial and viral infections etc.
 - **PERIODONTITIS:**
Adult Periodontitis, Rapidly Progressive
Periodontitis A & B, Juvenile periodontitis (localized, generalized and post juvenile), Pubertal periodontitis, Refractory Periodontitis.

6. Gingival diseases Localized and generalized gingivitis. Papillary, marginal and diffused gingivitis, Etiology, pathogenesis, clinical signs, symptoms and management of
1. Plaque - associated gingivitis
 2. Systemically aggravated (sex hormones, drugs and Systemic diseases).
 3. Necrotizing ulcerative gingivitis
 4. Desquamative gingivitis-Gingivitis associated with Lichen planus, pemphigoid, pemphigus and other Vesiculobullous lesions).
 5. Allergic gingivitis.
 6. Infective gingivitis-Herpetic, bacterial and candidial, pericoronitis.
 7. Gingival enlargement (classification and differential diagnosis).
7. Epidemiology of Periodontal diseases
- Definition of index, incidence, prevalence, epidemiology, endemic, epidemic, pandemic.
 - Classification of indices. (Irreversible & reversible)
 - Deficiencies of earlier indices used in Periodontics. Detailed understanding of Silness & Loe Plaque index, Loe and Silness gingival index, CPITN and CPI.
 - Prevalence of periodontal diseases in India and other countries.

- Public Health significance (All these topics are covered at length under community may be discussed briefly. However, questions may be asked from the topics in examination).
8. Extension of inflammation from gingiva Mechanism of spread of Inflammation from gingival area to deeper periodontal structures.
- Factors that modify the spread.
9. Pocket
- Definition, signs and symptoms, Classification, Pathogenesis and histopathology, Root surface changes and contents of the pocket.
10. Etiology
- Dental Plaque (Bio-film)
 - Definition
 - Types, composition, formation; bacterial colonisation, growth and maturation, Disclosing agents.
 - Role of dental plaque in periodontal diseases.
 - Plaque micro-organisms in detail
 - Bacteria associated with periodontal diseases.
 - Plaque retentive factors
 - Meteria alba
 - Food debris
 - **Calculus**
 - Definition, types, composition, attachment, theories of formation.
 - Role of dental calculus in diseases.

- Food impaction

Definition, types, etiology
Hirschfelds classification, signs,
symptoms and sequelae
Treatment.

- Trauma from occlusion

Definition

Types

Histopathological changes

Role of trauma from occlusion in
Periodontal diseases.

Management, in brief.

- Habits

Their Periodontal significance

- Bruxism and parafunctional habits,
Tongue thrusting, mouth breathing,
lip biting, occupational habits.

- Iatrogenic factors

Conservative Dentistry restorations -
Contact point, marginal ridge,
surface roughness overhanging
restorations, interface between
restoration and teeth.

- Prosthodontics

- Interrelationship

- Bridges and other prosthesis
pontics (Types), surface contour,
relationship of margins to the
periodontium. (Theories)
gingival muscle action theory,
theory of access to oral hygiene

- Orthodontics:

- Interrelation - removable
appliance, fixed appliances.
- Retention of plaque, bacterial
changes.

- Systemic disease:

- Diabetes, Sex hormones,
Nutrition (Vit. C & Proteins)

- AIDS and Periodontium

- Hemorrhagic disease.

- Leukemia, Clotting factors disorder

- Platelet disorder

- PMN disorders

11. Risk Factors

- Definition, risk factors for
periodontal disease

12. Host Response

- Mechanism of initiation and
progression of periodontal diseases

- Basic concepts-cells-mast cells,
Neutrophils, macrophages,
lymphocytes. Immunoglobulins,
complement, Immune Mechanism
and Cytokines in brief.

- Stages in gingivitis-initial, early
established, advanced.

- Periodontal diseases activity
continuous paradigm, random
burst and asynchronous
multiple burst hypothesis.

13. Periodontitis

- Etiology, Histopathology, Clinical
signs and symptoms, diagnosis
and treatment of

- Adult periodontitis

- Periodontal abscess - Definition,
classification, pathogenesis.
Differential diagnosis and treatment.

- Furcation involvement

Glickman's classification,
prognosis and management.

- Rapidly progressive: Localized Generalised
 - Post Juvenile periodontitis
 - Periodontitis associated with Systemic disease
 - Refractory periodontitis.
14. Diagnosis
- Routine procedures, methods of probing - types of probes. (According to case history)
 - Halitosis, Etiology and treatment. Mention advanced diagnostic aids and their role in brief.
15. Prognosis
- Definition, types, purpose and factors to be taken into consideration
16. Treatment plan
- Factors to be considered
17. Periodontal Therapy
- A. General principles of periodontal therapy phase I,II,III,IV therapy. Definition of periodontal regeneration, repair, new attachment reattachment.
 - B. Plaque control
 - a) Mechanism - Tooth brushes, inter-dental cleansing aids, Dentifrices
 - b) Chemical - Classification and mechanism of action of each, pocket irrigation.
18. Pocket eradication Procedures
- Scaling and Root Planning
 - Indications
 - Aims and Objectives
 - Armamentarium

- Procedure
- Healing following root planning
- Hand instruments for scaling and sonic & piezoelectric & Ultra-sonic scalers.
- Curettage and present concepts
 - Definition
 - Indication
 - Aims and Objectives
 - Procedure and healing
 - Gingivectomy / Gingivoplasty including crown lengthening procedure
 - Definition
 - Indication and contraindication
 - Armamentarium, Procedure and healing
 - Flap - Surgery
 - Definition of flap
 - Types of flap (Design of flap - Palillae preservation) Pocket eradication, indications, armamentarium, surgical procedure and healing.
19. Osseous Surgery
- Osseous defects in periodontal disease
 - Definition
 - Classification of osseous defect and surgery.
 - Resective, additive osseous surgery (osseous grafts, classification of grafts)
 - Healing

- Other regenerative procedures - root conditioning.
- Guided tissue regeneration.
- 20. Mucogingival Surgery (periodontal plastic surgery)
 - Definition
 - Mucogingival problems
 - Etiology & classification of gingival recession (P.D. Miller Jr. and Sullivan and Atkins) Indications, Objectives.
 - Gingival extension procedure-lateral pedicle graft, frenectomies and frenotomy.
 - Crown lengthening procedures.
 - Periodontal Microsurgery in brief
- 21. Splints
 - Periodontal splinting
 - Purpose, classification
 - Principles of splinting
- 22. Hypersensitivity
 - Causes, theories and management
- 23. Implants
 - Definition, Types, Scope, biomaterials used.
 - Periodontal considerations such as implant-gingiva and implant bone interface. Implant failure peri implantitis and management.
- 24. Maintenance Phase (SPT)
 - Aims and objectives, Principles,
 - Importance, procedure,
 - Maintenance of implants
- 25. Pharmacotherapy
 - Periodontal dressings
 - Antibiotics and anti-inflammatory drugs, local drug delivery systems.

- 26. Periodontal management of medically compromised patients
 - 27. Inter disciplinary
 - Perio-Restorative Relations
 - Perio-ortho Relations
 - Pulpo-periodontal involvement
 - Route of spread of infection.
 - Simon's classification and management.
 - 28. Systemic effects of periodontal disease in brief.
 - Cardiovascular disease, low birth weight babies etc.
- ### CLINICALS
1. Infection control
 2. Periodontal instruments
 3. Chair position and principles of instrumentation
 4. Maintenance of instruments (Sharpening)
 5. Ultrasonic, piezoelectric and sonic scaling demonstration of procedure.
 6. Diagnosis of periodontal disease and determination of prognosis
 7. Radiographic interpretation and lab investigations.
 8. Motivation of patients - oral hygiene instructions. Student should be able to record a detailed periodontal case history,

determine diagnosis, prognosis and plan treatment. Shall perform scaling, root planing, local drug delivery and SPT. Shall be given demonstration of all periodontal surgical procedures.

9. Scaling and root planning - adequate number of cases.

10. Occlusal equilibration.

Lectures - 40 Hours

Clinicals - 240 Hours

5. ORAL AND MAXILLOFACIAL SURGERY

Local Anaesthesia:

1. Introduction, 2. Properties of an ideal local anaesthetic drug, 3. Properties of common local anaesthetic drugs in use, 4. Choice of anaesthesia - local or general, 5. Indications and contra indications, advantages and disadvantages of local anaesthesia, 6. Components of a standard local anaesthetic solution and the part played by each component, 7. How does local anaesthetics act, 8. Preanaesthetic medication, 8. Technique of infiltration anaesthesia, Nerve block anaesthesia. Symptoms and signs of anaesthesia, 10. Complications associated with local anesthesia and their management.

General Anaesthesia:

1. Properties of general anaesthetic drugs commonly used, 2. Pre-anaesthetic preparation of patient and premedication, 3. Evaluation of a patient for general anaesthesia. 4. Short anaesthesia in a Dental Chair Endotracheal anaesthesia, Intravenous anesthesia. 5. Symptoms and signs of general anaesthesia. 6. Complications arising during the administration of general anaesthesia and their management. 7. Hypotensive Anaesthesia.

Exodontia:

1. Objectives
2. Indications for tooth extraction.
3. Pre-operative assessment.
4. Forceps extraction.
5. Surgical extraction (Trans-alveolar extraction)
6. Extraction technique under general anaesthesia in the Dental chair.
7. Complications of tooth extraction and their management.

Oral Surgery:

1. Definition and scope, 2. Diagnosis in oral surgery (a) History taking. (b) Clinical examination. (c) Special investigation. 3. Importance of general condition of the patient in relation to oral surgery. 4. Treatment planning. 5. Sterilisation. 6. Use of antibiotics in oral surgery. 7. Diagnosis, pre-operative assessment and treatment of impacted teeth. 8. Pre-prosthetic surgery. 9. Surgical aid to Orthodontics. 10. Oro-facial infections, their diagnosis and treatment. 11. Inflammatory diseases of jaw bone and their management. 12. Diagnosis and management of Cysts of oral cavity. 13. Diagnosis and treatment of the fracture of the mandible. 14. General outline of the fracture of the middle third of the facial skeleton. 16. Diagnosis and treatment of benign neoplastic lesions of the oral cavity (Odontogenic and non-odontogenic) 16. Surgical procedure in relation to endodontic therapy (Apicectomy). 17. Surgical treatment of tumour like lesions of the oral cavity including odontomes. 18. Diseases of maxillary sinus, with special reference to oro-antral fistula, 19. Management of haemorrhage in

oral surgery, 20. Diseases of the salivary glands - Diagnosis and treatment. 21. Surgical aspects of histopathological diagnosis. 23. Diagnosis of malignant condition of oral cavity, a broad outline about the different methods of treatment. 24. Diseases of temporomandibular joint such as arthritis, hypoplasia, subluxation, 25. Affliction of trigeminal and facial nerves. 26. Implant surgery. 27. Maxillo facial imaging. 28. Cryosurgery, 29. Lasers. 30. General and Local Anesthesia - recent development. 31. Grafts (soft and hard tissue). 32. Basic principles of flaps and suturing technique. 33. Electro - cautery. 34. Management of Syncope, shock. 35. Clinical manifestation and prevention of HIV, Hep A,B etc. 36. Orthognathic surgery. 37. Principles of incineration and disposal of medical disposables.

LECTURES:

Anaesthesia (Local and general)	...	10
Exodontia	...	10
Oral Surgery	...	40
Clinical	...	320 hours

6. PROSTHODONTICS AND CROWN AND BRIDGE

A. COMPLETE DENTURES:

1. Introduction & scope. 2. Applied Anatomy. 3. Examination, diagnosis, treatment planning and prognosis. 4. Principles of retention and stability. 5. Principles and techniques of impression making. 6. Preparation of casts, trays and temporary denture bases occlusal rims 7. Jaw relations and methods of registration. 8. Artificial teeth, their selection and arrangements and esthetics. 9. Articulators and face bows. 10. Occlusion and articulation in complete dentures. 11. Processing and finishing of dentures. 12. Corrections of occlusal discrepancies. 13. Insertion and adjustments of complete dentures.

14. Sequelae of ill fitting dentures. 15. Repair, rebasing and relining. 16. Immediate dentures. 17. Implant dentures.

B. REMOVABLE PARTIAL DENTURES:

1. Introduction & scope.
2. Classification.
3. Examination, diagnosis and treatment planning.
4. Components of removable partial dentures & their function.
5. Surveyors.
6. Mouth preparation for partial dentures.
7. Impression procedures.
8. Designs of removable partial dentures & its associated problems.
9. Fabrication of cast metal frame work.
10. Jaw relation record.
11. Selection and arrangement of teeth
12. Acrylic partial denture
13. Trying in of partial dentures.
14. Processing, finishing, insertion and maintenance of partial dentures.
15. Immediate Partial dentures.

C. CROWN AND BRIDGE PROSTHODONTICS:

1. Introduction & Definition. 2. Indication and contra-indications.
3. Examination, diagnosis and treatment planning. 4. Selection

and choice of abutment teeth. 5. Principles of tooth reduction. 6. Indications, contra indications. 7. Procedures of preparation of abutment teeth for receiving various types of retainers. 8. Temporary protection of prepared tooth. 9. Gingival retractions and impression procedures. 10. Construction of dies and working casts. 11. Direct and indirect technique. 12. Technique of fabrication of retainers. 13. Selection and Fabrication of pontics. 14. Connectors, stress breakers and assembly of fixed bridges. 15. Finishing. 16. Commentation 17. Maintenance of crowns and bridges. 18. Bridge failure Management.

D. MAXILLOFACIAL PROSTHESIS:

1. Splints

2. Obturators

3. Carriers

Lectures 80 hours

Clinicals—360 hours

7. PEDODONTICS

- i. Introduction, definition, scope and importance of pedodontics.
- ii. Growth & development of Dental and Oral facial structures and normal occlusion - Developmental anomalies.
- iii. Morphology of Dentitions and its application.
 - (a) Applied morphology and histology of deciduous and permanent teeth.
 - (b) Importance of first permanent molar.

iv. Fundamentals of Dental Health.

Biological factors responsible for maintenance of Dental and Oral Health.

v. Contributory local factors affecting oral health - plaque etc.

vi. Child psychology and management of child patient.

vii. Examination, diagnosis and treatment planning.

viii. Clinical pedodontics: Treatment of traumatized teeth, management of the primary and mixed dentition period Gingival disorders in children. Stomatological conditions in children. Mouth habits and their managements Set-up of Pedodontic clinic. Teething disorders. Developmental anomalies. Dental caries in children. Restorative dentistry. Pulp therapy and endodontics, space maintainers.

ix. Importance of Oral Hygiene in children

x. Feeding problem in cleft palate

Lectures ... 40 hours

Practicals & Clinicals ... 240 hours

Model Question Paper

FOR ALL SUBJECTS OF B.D.S. DEGREE EXAMINATIONS

Time: Three Hours

Maximum : 100 Marks

- (i) Separate answer books must be used for Section A and B.
- (ii) Section C must be answered separately on the answer sheet placed inside the question paper booklet as per the instructions on the first page.
- (iii) Answer ALL the questions.

SECTION — A (30 Marks)

1. Essay question 15 Marks
2. Essay question 15 Marks

SECTION — B (40 Marks)

Write short notes on:

- (a)
 - (b)
 - (c)
 - (d)
 - (e)
 - (f)
 - (g)
 - (h)
- (8 x 5 = 40 Marks)

SECTION — C (MULTIPLE CHOICE QUESTIONS)

Time : 20 Minutes Maximum : 30 Marks

Total number of questions : 30

Each question carried one mark

No negative marking.

Each question contains four suggested responses of which only one is correct. Select.

Model Question Paper**I. B.D.S.****HUMAN PHYSIOLOGY & BIOCHEMISTRY**

Time : Three hours Maximum : 100 Marks

- (i) Separate answer books must be used for Sections A and B.

- (ii) Section C must be answered separately on the answer sheet placed inside the question paper booklet as per the instructions on the first page.

SECTION — A (Human Physiology) (35 Marks)

1. Essay question (15 Marks)
2. Write short notes on:

- (a)
 - (b)
 - (c)
 - (d)
- (4 x 5 = 20 Marks)

SECTION — B (Biochemistry) 35 Marks

1. Essay question 15 Marks
2. Write short notes on:

- (a)
 - (b)
 - (c)
 - (d)
- (4 x 5 = 20 Marks)

SECTION — C (Multiple Choice Questions)

Time : 20 Minutes Maximum : 30 Marks

Questions	1 to 15	—	Human Physiology
	16 to 30	—	Biochemistry

Each question carries one mark.

No negative marking.

Each question contains four suggested responses of which only one is correct. Select.

Model Question Paper

II. B.D.S.

GENERAL PATHOLOGY & MICROBIOLOGY

Time : Three hours

Maximum : 100 Marks

- (i) Separate answer books must be used for Sections A and B.
- (ii) Section C must be answered separately on the answer sheet placed inside the question paper booklet as per the instructions on the first page.
- (iii) Answer ALL the questions.

SECTION — A (GENERAL PATHOLOGY) (35 Marks)

1. Essay question (15 Marks)

2. Write short notes on:

(a)

(b)

(c)

(d)

(4 x 5 = 20 Marks)

SECTION — B (MICROBIOLOGY) (35 Marks)

1. Essay question (15 Marks)

2. Write short notes on:

(a)

(b)

(c)

(d)

(4 x 5 = 20 Marks)

SECTION — C (MULTIPLE CHOICE QUESTIONS)

Time : 20 Minutes

Maximum : 30 Marks

Questions 1 to 15 — General Pathology

16 to 30 — Microbiology

Each question carries one mark.

No negative marking.

Each question contains four suggested responses of which only one is correct. Select.

CURRICULUM OF DENTAL C.R.I. PROGRAMME

1. The duration of CRI shall be one calendar year.

2. All parts of internship shall be done in a Dental College duly recognised by the Dental Council of India for the purpose of imparting education and training to Dental graduates in the country.

3. The Dental graduates shall be paid stipendary allowance during the period of internship not extending beyond a period of one calendar year.

4. The internship shall be compulsory and rotating as per the regulations prescribed for the purpose.

DETERMINANTS OF CURRICULUM FOR INTERNSHIP FOR DENTAL GRADUATES

The curricular contents of internship training shall be based on:

- i) Dental health needs of the society.
- ii) Financial, material and manpower resources available for the purpose.
- iii) National Dental Health Policy.
- iv) Socio-economic conditions of the people in general.
- v) Existing Dental as also the primary health care concept, for the delivery of health services.
- vi) Task analysis of what graduates in Dentistry in various practice settings, private and government service actually perform.
- vii) 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.
- viii) Experimental 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 achievement of basic skills; attaining competence Vs. maintaining competence in:-

- i) History taking.
- ii) Clinical Examination.
- iii) Performance and interpretation of essential laboratory data.
- iv) Data analysis and inference.
- v) Communication skills aimed at imparting hope and optimism in the patient.
- vi) Attributes for developing working relationship in the Clinical setting and Community team work.

C. To facilitate development of sound attitudes and habits:

- i) Emphasis on individual and human beings and not on diseases / syndromes.
- ii) Provision of comprehensive care, rather than fragmentary treatment.
- iii) Continuing Dental Learning and Education and accepting the responsibility.

D. To facilitate understanding of professional and ethical principles:

- Rights and dignity of patients.
- Consultation with other professionals and referral to seniors / institutions.

— Obligations to peers, colleagues, patients, families and community.

— Provision of free professional services in an emergent situation.

E. To initiate individual and group action, leading to disease 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; Pedodontics; Oral Pathology & Microbiology; Orthodontics and Community Dentistry.

GENERAL GUIDELINES:

1. 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.
2. To facilitate achievement of basic skills and attitudes the following facilities should be provided to all dental graduates:-
 - i) History taking, examination, diagnosis, charting and recording treatment plan of cases.
 - ii) Presentation of cases in a group or Seminar.
 - iii) Care and sterilization of instruments used.
 - iv) Performance and interpretation of essential laboratory tests and other relevant investigations.

- v) Data analysis and inference.
- vi) Proper use of antibiotics, anti-inflammatory and other drugs, as well as other therapeutic modalities.
- vii) Education of patients, their relatives and community on all aspects of dental health care while working in the institution as also in the field.
- viii) Communication aimed at inspiring hope, confidence and optimism.
- ix) Legal rights of patients and obligations of dental graduate under forensic jurisprudence/

1. ORAL MEDICINE & RADIOLOGY

1. Standard examination of patients 5 cases
2. Exposure to clinical, pathological laboratory procedures and biopsies 5 cases
3. Effective training in taking of Radiographs:

(Intra-oral) I.O.	2 full month
(Extra-oral) E.O.	1
Cephalogram	1
4. Effective management of cases in wards 2 cases

2. ORAL AND MAXILLOFACIAL SURGERY

- A. The Dental graduates during their posting in oral surgery shall perform the following procedures:
1. Extractions 50
 2. Surgical extractions 2

3. Impactions 2
 4. Simple IMP 1 case
 5. Cysts enucleations 1 case
 6. Incision and drainage 2 cases
 7. Incision and drainage 3 cases
 8. Biopsies 3 cases
 9. Frenectomies, etc. 3 cases
- B. The dental graduates shall perform the following on cancer patients:
1. Maintain file work.
 2. Do extractions for radiotherapy cases.
 3. Perform biopsies.
 4. Observe varied cases of oral cancers.
- C. The dental graduates shall have 15 days posting in emergency services of a dental / 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:
1. EMERGENCIES -
 - (i) Toothache; (ii) Trigeminal neuralgia; (iii) Bleeding from mouth due to trauma, post extraction, bleeding disorder or

haemophilia; (iv) 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.

2. Work in I.C.U. with particular reference to resuscitation procedures.
3. Conduct tutorials on medico-legal aspects including reporting an actual cases coming to casualty. They should have visits to law courts.

3. PROSTHODONTICS

The dental graduates during their internship posting in Prosthodontics shall make:

1. Complete denture 2
2. RPD 4
3. F.P.D. 1
4. Planned cast partial denture 1
5. Miscellaneous-like Reline / Overdenture / Repairs 1
6. Learning of face bow transfer and using semi anatomic articulator. 1
7. Crowns

4. PERIODONTICS

A. The dental graduates shall perform the following procedures:

1. Prophylaxis 10 cases
2. Flap operation 2 cases

- 3. Root planing 1 case
- 4. Curretage 2 cases
- 5. Gingivectomy 1 case
- 6. Perio-Endo cases 1 case

B. During their posting of one week in the community health centres, the dental graduates shall educate the public in prevention of dental diseases.

5. CONSERVATIVE DENTISTRY

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

- 1. Restoration of extensively mutilated teeth 2 cases
- 2. Inlay and onlay preparations 1 case
- 3. Use of tooth coloured restorative materials. 4 cases
- 4. Treatment of discoloured vital and non-vital teeth. 1 case
- 5. Management of dento alveolar fracture 1 case
- 6. Management of pulpless, single-rooted teeth without periapical lesion. 1 case
- 7. Management of acute dento alveolar infections. 4 cases
- 8. Management of pulpless, single-rooted teeth with periapical lesion. 1 case

- 9. Non-Surgical management of traumatised teeth during formative period 1 case

6. PEDODONTICS AND PREVENTIVE DENTISTRY

During their posting in Pedodontics the Dental graduates shall perform:

- 1. Topical application of fluorides including varnish 5 cases
- 2. Restorative procedures of carious deciduous teeth in children 10 cases
- 3. Pulpotomy 2 cases
- 4. Pulpectomy 2 cases
- 5. Fabrication and insertion of space maintainers 2 cases
- 6. Oral habit breaking appliances. 1 case

7. ORAL PATHOLOGY AND MICROBIOLOGY

The dental graduates shall perform the following:

- 1. History-recording and clinical examination 5 cases
- 2. Blood, Urine and Sputum examination. 5 cases
- 3. Exfoliative Cytology smears study. 2 cases
- 4. Biopsy lab procedure 2 cases

8. ORTHODONTICS

- A. The dental graduates shall observe the following procedures during their posting in Orthodontics:-

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

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

1. Wire-bending for removable appliances 5
2. Soldering exercises. 2
3. Cold cure and heat cure acrylicisation of orthodontic appliances. 5

C. They shall practice the following clinical work:

1. Preparation of record Diagnosis and treatment plan. 2 cases
2. Delivery of removable appliances. 5 cases
3. Banding of bonding procedure. 2 cases

9. COMMUNITY DENTISTRY

1. 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.
2. They shall conduct a short-term epidemiological survey in the community, or in the alternate, shall participate in the planning and methodology of such a survey.
3. 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
4. Conduction of oral health education programmes at:
 - a) School setting — 2
 - b) Community setting — 2
 - c) Adult education programmes — 2
5. Preparation of Health Education materials - 5
6. Exposure of 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 atleast one National Health Programme.
- d) Observation of inter linkages of delivery of oral health care with Primary Health Care.

Mobile dental clinics, as and when available, should be provided for this training.

EFFECTIVE POSTING

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

ORGANISATION OF CONTENT

The curriculum during the 4 years of B.D.S. training is subject-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 be 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 chair-side 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, specimens, models and other audiovisual aids shall be provided in all the dental colleges and attached institutions and field areas. It possible, Television, Video and tapes showing different procedures and techniques to be mastered by the dental graduates should be provided.

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 but 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 departments and the records and performance data book maintained by the interns. Grading shall be done accordingly.

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| 1. Oral Medicine & Radiology | — | 1 month |
| 2. Oral & Maxillofacial Surgery | — | 2 months |
| 3. Prosthodontics | — | 1½ months |
| 4. Periodontics | — | 1 month |
| 5. Conservative Dentistry
and Endodontics | — | 1½ months |
| 6. Pedodontics | — | 1 month |
| 7. Oral Pathology & Microbiology | — | 15 days |
| 8. Orthodontics and Dento facial
Orthopaedics | — | 1 month |
| 9. Community Dentistry | — | 2 months |
| 10. Elective | — | 15 days |