

BDS

**The Tamil Nadu
Dr. M.G.R. Medical University
Madras**



**Regulations For The
Bachelor of Dental Surgery
Degree Course**

The Tamil Nadu
Dr. M. G. R. Medical University
MADRAS

Regulations of the University

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

SHORT TITLE AND COMMENCEMENT :

These regulations shall be called "THE REGULATIONS FOR THE BACHELOR OF DENTAL SURGERY DEGREE COURSE OF THE TAMIL NADU Dr. M. G. R. MEDICAL UNIVERSITY, MADRAS."

They shall come into force from the academic year 1993-94 session except the regulation, relating to the eligibility criteria for undergraduate courses which comes into effect from 1992-93 session.

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

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 of 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-Professional/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 or 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 form 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) Re-appearance of failed candidates: 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 seeking 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.	—	July 1st to 31st March
II B.D.S.	—	June 1st to 31st March
III B.D.S.	—	June 1st to 31st March
IV B.D.S.	—	June 1st to 31st March

and one year of Compulsory Rotatory Internship.

8. CURRICULAM

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

April 1st / October 1st

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

10. CUT-OFF 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 in April of the next year.

The candidates admitted from 1st October to February 28th of the academic year will be registered to take up their 1st year examination in October of the next year.

The candidates who have joined on or after 1st March to 31st March of the academic year will be registered for the academic year but they have to undergo the course and to take up their 1st year examination along with the subsequent year batch of students.

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.

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 powers 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 candidate's 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 examination. 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 give in writing the reason for the ward's absence to the Head of the Institution)

c) Participation in NCC/NSS and other co-curricular 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 re-admission.

b) The five years period of break of study shall be calculated from the date of first admission of the candidate to the course for the subsequent spells of break of studies.

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

d) All re-admissions 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 re-admission for condonation to the Academic Officer of this University. The candidates may be re-admitted in the corres-

pending course of study at the commencement of the session and shall undergo a minimum period of study of 3 months and after fulfilment 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 re-admission in the prescribed form and remitting the stipulated fee for condonation to the Academic Officer of this University. The candidates may be re-admitted in corresponding course of study at the commencement of the session and shall undergo a minimum period of study of 3 months and after fulfilment 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) The candidates having a break of study of one year and above but less than three 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 candidate may be re-admitted in the corresponding course of study at the commencement of the session and shall undergo a minimum period of study of 6 months and after fulfilment of the regulations of this University, be admitted for the examination. The candidate shall be granted exemption only in the I B.D.S. subjects they have already passed.

h) The candidates having a break of study of 3 years but less than 5 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 re-join the course the beginning of the I B.D.S./II B.D.S. course, as the case may be, with the condition that these candidates will have to undergo the prescribed period of study from the I B.D.S. or from II B.D.S. course and will not be granted any exemption in any subject they have already passed. They shall subscribe to the regulations of this University.

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 fulfilment of the regulations of this University.

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 performances shall be taken into consideration for the award of sessional marks.

A minimum of three practical examinations shall be conducted in each subject during an academic year and an average of two best performances 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 at 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.

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.

21. REVIEW OF ANSWER PAPERS OF FAILED CANDIDATES

As per the regulations prescribed for other undergraduate courses.

22. SUBJECTS OF STUDY

I. B.D.S. :

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

II. B.D.S. :

Paper I	Human Oral Anatomy Physiology Histology and Tooth Morphology
Paper II	General Pathology and Microbiology
Paper III	General Dental Pharmacology and Therapeutics

III. B.D.S. :

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

IV. B.D.S. :

Paper I	Conservative Dentistry and Endodontics
Paper II	Orthodontics
Paper III	Oral Medicine (Oral Diagnosis) and Radiology
Paper IV	Periodontics
Paper V	Oral Surgery
Paper VI	Prosthodontics and Crown and Bridge
Paper VII	Paedodontics

23. ALLOCATION OF MARKS

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

24. MARKS QUALIFYING FOR A PASS

45% marks in the University written examination	45 / 100
50% marks in the University practical examination	25 / 50
50% marks in the aggregate of written, oral, practical and internal assessment	100 / 200

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 Registrar, The Tamil Nadu Dr. M.G.R. Medical University, Madras is/are enclosed.
Signature of the Principal with College Seal
Signature of the Head of the University Departments with seal
- Date : _____
Place : _____
- Note : 1. The fee prescribed for Condonation of shortage of attendance is Rs. 50/- 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 Zygots 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 & Jaws

Development of Branchial arches & their derivatives, (tongue, tonsil, Thymus, Thyroid, Parathyroid)

Development of Cranium & Vertebrae

Development of the Temporomandibular 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

Norma Verticalis

Norma Frontalis

Norma Occipitalis

Norma Lateralis

Norma Basalis

- (iv) Individual skull Bones
Mandible, Sphenoid, Parietal,
Frontal, Maxilla, Ethmoid, Vomer,
Nasal, Zygomatic Temporal, Lacrimal,
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

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, Palatic, 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 of 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 - Optimal view & cranial nerves attached

Pons

Cerebellum - subdivisions & functions

Fourth Ventricle

Mid Brain - External View - 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

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

PHYSIOLOGY - I B.D.S.**(Paper-II)****Introduction to Physiology :**

The cell as the living unit of the body

The extra cellular fluid

Homeostasia

Transport through the cell membrane

Membrane potentials and Action Potentials

BLOOD :

Composition of Blood

The Red Blood Cells

Blood Volume

Hemoglobin

The formation of red cells and Anaemia

Hemorrhage - Transfusion, Hemolysis or Laking of blood

The blood groups

The white cells

The blood platelets

The retucule Endothelial system

The coagulation of blood

Cardio Vascular System**General description of the circulatory system**

Basic haemodynamic principles - relevant to circulation. The structure and physiological properties of cardiac muscle.

Origin and conduction of heart beat

Cardiac cycle - Different cyclic changes which occur.

Electrocardiogram - Leads used both clinically and experimentally. Normal pattern and interpretation. ECG in cardiac disorders.

Cardiac Output Terminology, Normal values, Measurement of Cardiac output, Distribution of cardiac output, Factors controlling cardiac output.

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

Radial Pulse

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

Physiology of Shock

Special Circulation : Pulmonary circulation, Cerebral circulation, Ceronary circulation, Skin circulation, Hepatic circulation, Splenic circulation and Renal circulation.

Respiration

- Structures of the respiratory organs
- Mechanics of respiration
- Subdivisions of lung air
- The chemistry of respiration
- Transport of respiratory gases in blood
- Control of respiration
- Physiological modification of respiration
- Hypoxia
- Artificial respiration

Excretion

- Structure of the nephron
- Volume and composition of urine
- Formation of urine
- Renal function tests
- Micturition <i>i</i>
- Artificial Kidney

Endocrines

- General chemistry of hormones
- The thyroid gland
- The parathyroid gland
- Endocrine Pancreas
- Adrenal glands
- Pituitary gland
- The pineal gland
- Prostaglandins
- Thymus

Genods and Reproduction

- Male reproductive system
- Androgens
- Spermate genesis
- Female reproductive system

Structure of Ovary

- Menstruation
- Pregnancy
- Lactation

Muscle and the Nervous system

- Skeletal muscle structure and properties
- Structure and function of the nervous tissue
- Reflex action
- The afferent nervous system
- The regulation of posture
- The cerebellum
- Structure of the Cerebral cortex
- Voluntary movement
- The Basal Ganglia
- The Thalamus
- The Electroncephalogram
- Somatic sensory cortex and parietal lobe
- The prefrontal lobe
- Physiology of pain
- Taste
- The brain stem
- The Autonomic Nervous system
- The special senses

Digestion

- Structure of the digestive tract
- Digestion in the mouth
- Digestion in the stomach
- Digestion in the intestine
- Absorption in the intestine
- Movements of alimentary canal
- Defaecation.

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 Pulse and Blood Pressure.
7. Determination of bleeding time and clotting time.

Demonstrations

1. Determination of packed cell volume.
2. Clinical examination of chest.
3. Properties of excitable tissues
 - skeletal muscle
 - cardiac muscle
4. Activity of Frog's heart effects of vagal stimulation and of atropine and adrenaline.
5. Perfusion of Frog's heart effects of sodium calcium and potassium ions.

BIOCHEMISTRY THEORY - I B.D.S.

1. BIOLOGICAL CARBOHYDRATES AND LIPIDS

Carbohydrates-classification, structure, chemical reactions of monosaccharides-deoxy & amine sugars, di & polysaccharides, glycoproteins and mucopolysaccharides - properties and biological importance. Lipids - classification and structure, properties of Triacylglycerols, phospholipids and other compound lipids, characteristic chemical reaction and properties of lipids, cholesterol, bile acids and steroids.

2. PEPTIDES AND PROTEINS

Classification, structure and properties of amino acids - formation of peptide bonds - definition of peptides - determination of primary structure of peptides by procedure like electrophoresis, chromatography and ultra centrifugation. Physiologically active peptides - classification of proteins - size and shape of proteins and bonds responsible for their structure - denaturation and colour reactions of proteins - separation, determination, origin and function of plasma proteins and their alterations in pathological conditions.

3. ENZYMES

Definition - classification of enzymes - coenzymes - Enzyme specificity - measurement of enzyme activity, Enzyme kinetics - Michaelis menten equation - double reciprocal or Line Weaver Bork plot - sigmoidal saturation kinetics - optimum PH and temperature - competitive, non competitive inhibition - mechanism of enzyme action - Isoenzymes and enzymes in clinical diagnosis.

4. MINERAL METABOLISM

Functions, sources requirements, absorption, metabolism and deficiency symptoms with reference to calcium, phosphorus, magnesium, sodium and potassium and trace elements such as Iron, copper and fluoride.

5. WHOLE BODY METABOLISM

General outline of metabolism of carbohydrates, proteins and lipids - Biological oxidation.

6. HAEMOGLOBIN

Structure - abnormal haemoglobins - porphyrins-synthesis and breakdown - metabolism of bile pigments.

7. VITAMINS

Structure, function, requirements, resources and deficiency symptoms with reference to vitamins A, D, E, K, C, & B Complex.

PRACTICALS

1. Reactions of Carbohydrates (monosaccharides - glucose, fructose and galactose - disaccharides - Lactose, maltose, sucrose) and proteins.
2. Gastric analysis (Total and free acidity)
3. Normal and pathological constituents in urine.

PAPER—III

MATERIALS USED IN DENTISTRY

I B. D. S.

Aims and scope of the science of dental materials

Structure and behaviours of materials

Important physical properties applicable to dental materials including their biological considerations

Gypsum products in dentistry including casting

investment materials with or without gypsum binder

Impression material used in dentistry including duplicating materials.

Synthetic resins used in dentistry.

General properties and physical characteristics

Resins as denture base materials. Repair and relined materials soft liners, tissue conditioners.

Resins as restorative materials; unfilled and filled resin restorative materials tissue sealant

Direct-bonding cement materials.

Metals and alloys :- Their structure and behaviour & some important physical properties.

Dental amalgam alloys

Gold foil

Dental casting gold alloys

Dental waxes including inlay casting wax

Welding and soldering materials used

Dental Cements :- Classification, composition manipulation : properties and uses: Zinc Cements copper cements, Zinc-oxide, (-) eugenol cements, Silicate cements, cavity liners, cavity varnishers, resin cement.

Dental Procelain including Procelain fused to metal Procelain Furnace and fusing

Mechanics of tooth cuttings, burs and points

Abrasives and polishing agents

Die & counter die materials including electro-forming and electro-polishing.

Filling materials for anterior teeth

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

PRACTICALS :

MANIPULATING AND MIXING OF THE FOLLOWING DENTAL MATERIALS :

1. Plaster of Paris.
2. Dental Stone.
3. Investments - All types.
4. Impression materials.
 - a) Impression Compound.
 - b) Reversible Hydrocolloids heating and conditioning.
 - c) Irreversible Hydrocolloids.
 - d) Zinc Oxide Eugenol paste.
 - e) Elastomeric Impression materials.
5. Denture Base Materials.
 - a) Heat cure acrylic resin.
 - b) Cold cure acrylic resin.

6. Filling Materials.

- a) Zinc Oxide cement.
- b) Phosphate cement.
- c) Sillicate cement.
- d) Zinc Poly acrylic cement.
- e) Resin Cement.
- f) Silver Amalgam.

DEMONSTRATION :

1. Welding.
2. Soldering.
3. Annealing.
4. Pickling.
5. Investing.
6. Casting procedure.

SYLLABUS - II B.D.S.

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

- i) Development and growth of face, teeth and jaws
- ii) Development of enamel, dentine, cementum, pulp and periodontal membrane.
- iii) Calcification of hard tissues of the teeth
- iv) Microscopic anatomy of hard and soft tissues of the tooth and surrounding structures.
- v) 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.
- vi) Mastication and deglutition.
- vii) Age changes in teeth and surrounding structures.
- viii) Shedding of the deciduous teeth.
- ix) Eruption of permanent teeth.

- x) Chronology of dentition.
- xi) Form and arrangement of teeth - occlusion.
- xii) Functional anatomy of the oral cavity.
- xiii) Temporomandibular joint
- xiv) Evolution of the jaws and teeth.
- xv) Chemical composition of teeth.
- xvi) Calcium, phosphorus and fluoride 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

2. GENERAL PATHOLOGY AND MICROBIOLOGY - II B.D.S.
(PAPER—II)

- i) Introduction to Pathology.
- ii) Causes of the diseases.
- iii) Cell response to injury.
- iv) Inflammatory reactions.
- v) Tissue response to infection.
- vi) Wound healing.
- vii) Immunity to infection.
- viii) Hyper sensitivity.
- ix) Pyogenic infection.

- x) Tuberculosis, Syphilis, actinomycosis, Leprosy, fungal & Viral diseases.
- xi) Disorders of growth.
- xii) Cyst and tumours.
- xiii) Disorders of metabolism.
- xiv) Haemmerhage and shock.
- xv) Disorders of nutrition.
- xvi) Endocrine disturbances.
- xvii) Disorders of calcium metabolism.
- xviii) Thrombosis and embolism.
- xix) Oedema.
- xx) Infarction.
- xxi) Renal failure.
- xxii) Haepatic failure.
- xxiii) Pigments.
- xxiv) Calculi.
- xxv) Healing of fracture.

MICROBIOLOGY II B.D.S.

- i) Basic characteristics of micro organisms.
- ii) Introduction of Bacteriology.
- iii) Sterilisation and disinfection.
- iv) Oral Microbial flora.
- v) Staphylococci.
- vi) Streptococci.
- vii) Gram Positive and negative bacilli.
- viii) Spirochetes.
- ix) Actinomycetes.
- x) Viruses.
- xi) Organisms causing tetanus and Gasgangrene and dental caries.

- xii) Common Parasites.
- xiii) Vaccines and sera.
- xiv) Pyaemia, Septicemia and Toxaemia.
- xv) Culture and sensitivity tests.
- xvi) Focal and systemic infections.

MICROBIOLOGY—PRACTICALS II B.D.S.

1. Gram Staining.
2. Hanging Drop preparation.
3. Acid Fast staining.

PATHOLOGY—PRACTICALS II B.D.S.

URINE EXAMINATION

Benedict's Test
 Test for Protein
 Rothera's Test
 Hey's Test
 Smith's Test
 Benzedine Test

BLOOD

Blood count
 Immatures Cells

SLIDES

Actinomycosis
 Carcinoma
 Sarcoma
 Ameloblastoma
 Fibroma
 Thrombosis
 Haemangioma
 Granulation Tissue
 Ulcerations

Degeneration
 Accute inflammation
 Chronic inflammation
 Pathology of liver, spleen, Glands, Lungs etc.
 Melonoma
 Chondroma
 Taratoma
 Papilloma
 Rhinosporidium
 Filarial Lymphyadenopathv
 T. B. Lymphadenopathy
 Hodgkins disease
 Atherosclerosis

GENERAL & DENTAL PHRMACOLOGY & THERAPEUTICS (PAPER—III)

1. General Pharmacology

- General principles of Pharmacology
- Drug Receptors & Pharmacodynamics.
- Pharmacokinetics
- Drug Biotransformation
- Dosage forms and routes of drug administration.
- Adverse drug reactions.

2. Drugs acting on Central Nervous System

- General Anaesthetics
- Sedatives - Hypnotics and Antianxiety Drugs.
- Analgesics
 - Narcotic
 - Non - Narcotic (NSAID)
- Antiepileptic drugs
- Analeptics

3. Drugs acting on Peripheral Nervous System

- Cholinergic receptor stimulants
- Cholinergic receptor Antagonists
- Adrenergic receptor activating drugs
- Local Anaesthetics
- Skeletal muscle relaxants

4. Anti - infective Agents

- Sulfonamides & Trimethoprim
- Metronidazole & Tinidazole
- Antibiotics
- Cancer Chemotherapy

5. Local anti - infective agents

- Disinfectants and Antiseptics including antifungal and Antiviral agents.

6. Drugs acting on Cardiovascular System

- Drugs in Congestive Cardiac failure
- Antihypertensive Agents
- Vasodilators and Vasoconstrictors
- Drug therapy of shock
- Diuretics

7. Drugs acting on Haemopoietic System

- Iron, Vitamins B12 & Folic acid
- Haemostatic Agents & Anticoagulants
- Fibrinolytic Agents and Antiplatelet drugs

8. Drugs acting on the Endocrine System

- Hypothalamic and Pituitary Hormones
- Insulin and antidiabetic drugs
- Thyroid and Anti - Thyroid drugs
- Parathormone, Calcitonin, Calcium & Vitamin D
- Adrenocorticosteroids
- Sex Hormones

9. Autacoids

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

10. Drugs action on Gastrointestinal 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

- a) Astringents
- b) Obtundents
- c) Mummifying Agents
- d) Styptics
- e) Disclosing solutions
- f) Dentifrices & mouth washes
- g) Bleaching agents.

15. Prescription writing.

PHARMACOLOGY = PRACTICALS

1. Preparation of Mouth washes
2. Preparation of gum paints
3. Analgesic powder
4. Dentifrices
5. Antiseptics
6. Pulp mummifying paste
7. Pulp capping agents

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 Oral cavity 14. Diseases of salivary and lymph glands 15. Diseases of Temporo-Mandibular joint 16. Diseases of Nerves, skin blood and their implications to Oral Tissues 17. Effects of radiation on oral and para-oral tissues 18. Oral Microbiology.

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.

C. 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.

Respirat :

Pneumonia, Bronchitis Emphysema, Lung - Abscess Eosinophilia, 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, lymph adenopathy and splenomegaly.

Central Nervous Systems :

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

Nutritional and Metabolic :

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

Endocrine Disorders :

Thyroid Hypo and Hyperpituitary-Hypo and Hyper parathyroid.

Infections :

Enteric fever - Mumps - Viral exanthomata - Diphtheria - STD

Miscellaneous :

Allergy - Drug reactions - Drug interactions - Evaluation of a case for general anaesthesia.

Lectures	.....	40 hours
Clinicals	.....	90 hours
Total	.....	130 hours

3. GENERAL SURGERY (PAPER—III)

1. Introduction to Surgery, Classification of diseases 2. Inflammation, soft tissue 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. Wound-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. Outline 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 treatment, diathermy and radium treatment 11. Fracture - General Principles of treatment, diathermy treatment 12. Cleft lip and cleft palate 13. Thyroid and parathyroid 14. Swellings of jaws, care of the acutely injured.

- (i) Case Sheet writing and Demonstrations
- (ii) Ward procedure, including wound dressing

Lecture	.....	40 hours
Clinics	.....	90 hours
Total	.....	130 hours

4. PREVENTIVE AND COMMUNITY DENTISTRY (PAPER—IV)

1. Bio - statistics :

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

2. Psychology :

Introduction to Psychological development from birth to addoscence, 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 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 manpower, 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 disease and parameters used in clinical and population studies.

6. Social sciences :

As applied to health, social structure concepts groups, social institutions, urban and rural societies their concept of health Application of sociology in health programme, social environment.

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 for School Children and preventive programme. Topical fluoride application and oral hygiene demonstrations.

Lectures 30 hours

Field 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. Airotors and high speed equipment Cavity preparation for various types of restoration 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 aid in Endodontics Care and sterilisation of instrument for endodontics 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
Technics	.....	240	hours
Practicals	.....	360	hours

2. ORTHODONTIA

The following syllabus is suggested with a view to make the students understand the type of case he can select for treatment as a general practitioner and how best he can guide the patient and parents. Hence, stress should be on the preventive and interceptive principles of Orthodontics. 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 of Orthodontics 9. Appliances, used in orthodontic treatment - Adequate knowledge of (a) removable appliances, Mechanical appliances functional appliances 10. Tissue changes incident to Orthodontic treatment 12. Materials used Orthodontia 13. Habit breaking appliances.

Lectures	.....	40	hours
Practical & Clinical	.....	150	hours

The teaching of Orthodontia clinic and Practicals should be arranged during pre-final and final B.D.S. years.

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. Managements 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. Dysfunctions 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 treatment in oral facial conditions and their sequelae 6. Contrast radiography and recent advances in Dental Radiography including radioactive tracers.

Lectures	.....	15	hours
Clinicals	.....	90	hours

4. PERIODONTIA

1. Introduction :- Scope and applicability of the subject. Historical background of Periodontology. 2. Maintenance of Health - Role and scope of Oral Physiotherapy measures - patient

education - programme and periodic check 3. Classification of gingival and periodontal disturbances 4. Gingival enlargement 5. Infective muco - gingival condition - specific and non - specific 6. Degenerative conditions - Gingivitis and Periodontitis 7. Atrophic conditions affecting gingival and periodontal tissues 8. Local and systemic factors in the causation of gingival and periodontal lesions 9. Periodontitis and sequelae 10. Malocclusion Mal - alignment and traumatic occlusion Bruxism and Temporomandibular joint disturbances Occlusal equilibration 11. Diagnosis and diagnostic acids including roentgenography and its uses and limitations 12. Prognosis 13. Morphological defects of the mucogingival structures influencing periodontium and their treatment 14. Treatment of all gingival and periodontal disturbances. Treatment planning, phases and rationale. Different available therapeutic procedure. Healing mechanism. 15. Role of Nutrition in aetiology and treatment. 16. Drugs in periodontics. 17. Instrumentation 18. Splints 19. Preventive periodontics, concept of focal infection 20. Materials used in Periodontia.

CLINICALS

Varied approaches towards plaque control treatment of the sufficient number of cases of scaling and root planning. Approach examination, diagnosis (including differential diagnosis) and analysis of Periodontal and other cases, clinically. Treatment planning including surgical treatment and execution of the same Occlusal equilibration.

Lectures	.....	45	hours
Practicals	.....	205	hours

5. ORAL SURGERY

Local Anaesthesia :

1. Introduction 2. Properties of an idna local anaesthetic drug 3. Properties of common local anaesthetic drugs in use 4. Choice of an anaesthesia local or general anaesthesia 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 acts 8. Preanaesthetic - medication 9. Technique of infiltration anaesthesia, Nerve block anaesthesia. Symptoms and signs of anaesthesia. 10. Complications associated with local anaesthesia and their management.

General Anaesthesia :

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

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. Ora-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.
15. 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 odontome.
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
21. Diagnosis and treatment of salivary glands.
22. Surgical aspects of histopathological diagnosis
23. Oral surgical complications and their management
24. Diagnosis of malignant condition of oral cavity, a broad outline about the different methods of treatment.
25. Diseases of temporomandibular joint such as arthritics, hypoplasia subluxation, dislocation ankylosis other causes of inability to open the mouth.
26. Affection of trigeminal and facial nerves.

LECTURES :

Anaesthesia (Local and general)	...	10
Exodontia	...	10
Oral Surgery	...	40
Clinical	...	220 hours
Total Practice & Clinical hours	...	230 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.
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. Delivery and adjustments of complete dentures.
14. Sequelae of ill fitting dentures
15. Repair rebasing and relining.
16. Immediate denture.
17. Implant denture.

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 practical 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, delivery and maintenance of partial dentures.
15. Immediate Partial dentures.

C. ELEMENTS OF CROWN AND BRIDGE PROSTHESIS :

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 contraindications and procedures of preparation of abutment teeth for receiving various types of retainers 7. Temporary protection of prepared tooth 8. Gingival retractions and impression procedures 9. Construction of dyes and working models direct and indirect technique 10. Technique of fabrication of retainers 11. Selection and Fabrication of pontics 12. Connectors, stress breakers and assembly of fixed bridges 13. Finishing cementing and maintenance of crowns and bridges.

D. MAXILLOFACIAL PROSTHESIS :

1. Splints
2. Obturators
3. Carriers

Lectures 80 plus 20 = 100 hours

Practicals / Clinicals—360 (Technique) plus 540

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 plague 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.

Lectures ... 40 hours

Practicals & Clinicals ... 150 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 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 (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) $(8 \times 5 = 40 \text{ Marks})$

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.
- (iii) Answer ALL the questions.

SECTION—A (Human Physiology) (35 Marks)

1. Essay question (15 Marks)

2. Write short notes on :

(a)

(b)

(c)

(d) $(4 \times 5 = 20 \text{ Marks})$ **SECTION—B (Biochemistry) 35 Marks**

1. Essay question 15 Marks

2. Write short notes on :

(a)

(b)

(c)

(d) $(4 \times 5 = 20 \text{ Marks})$ **SECTION—C (Multiple Choice Questions)**

Time : 20 Minutes

Maximum : 30 Marks

- | | | | |
|-----------|----------|---|------------------|
| Questions | 1 to 15 | = | Human Physiology |
| | 16 to 39 | = | 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 × 5 = 20 Marks)

SECTION—B (MICROBIOLOGY) (35 Marks)

1. Essay question (15 Marks)
2. Write short notes on :
 - (a)
 - (b)
 - (c)
 - (d)

(4 × 5 = 20 Marks)

SECTION—C (MULTIPLE CHOICE QUESTION)

Time : 20 Minutes

Maximum : 30 Marks

Question	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 INTERNSHIP PROGRAMME

1. The duration of Internship 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) Experiential judgement of experts in Dentistry in India.

OBJECTIVES :

- A. To facilitate reinforcement of learning and acquisition of additional knowledge :
 - a) Reinforcement of knowledge.
 - b) Techniques & resources available to the individual and the community; Social and cultural setting.
 - c) Training in a phased manner, from a shared to a full responsibility.
- B. To facilitate the 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 disease / syndromes.
 - ii) Provision of comprehensive care, rather than fragmentary treatment.
 - iii) Continuing Dental Learning and Education of 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. Standardized 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 mouth
(Extra-oral) E.O	1
Cephalogram	1

4. Effective management of cases in wards 2 cases

2. ORAL AND MXILLOGACIAL SURGERY

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

1. Extractions	50
2. Surgicaleextractions	2
3. Impactions	2
4. Simple IMP	1 case
5. Cysts enucleations	1 case
6. Incision and drainage	2 cases
7. Alveoloplasties	3 cases
8. Biopsies	3 cases
9. Frenectomies, etc.	3 cases

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

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 on 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 maxillofacial surgery. | 1 |
| 6. Learning of face bow and peering me of semi anatomic articulator. | 1 |
| 7. Crowns | 2 |

4. PERIODONTICS

A. The dental graduates shall perform the following procedures :

- | | |
|---------------------|----------|
| 1. Prophylaxis | 10 cases |
| 2. Flap operation | 2 cases |
| 3. Root planning | 1 case |
| 4. Curettage | 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 acrylisation of orthodontic appliances. 5

C. They shall practise 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 to team concept and National Health Care systems :
 - a) Observation of functioning of health infrastructure.
 - b) Observation of functioning of health care team including multipurpose workers male and female, health educators and other workers.

- c) Observation of atleast one National Health Programme.
- d) Observation of interlinkages of delivery of oral health care with Primary Health Care.

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

ELECTIVE 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 the 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. If 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 traomomg bit more importantly, of the intern's own acquisition of competencies as, related to performance. It shall form a part of formative evaluation and shall also constitute a component of final grading of interns.

2. SUMMATIVE EVALUATION

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

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