



SRM

UNIVERSITY

(Under section 3 of UGC Act 1956)

BACHELOR OF DENTAL SURGERY [BDS] DEGREE

REGULATIONS 2015

(For the candidates admitted from 2015 – 2016)

**FACULTY OF MEDICINE AND HEALTH SCIENCES
S.R.M. UNIVERSITY**

BACHELOR OF DENTAL SURGERY [BDS] DEGREE

1. Short Title and Introduction:

These regulations shall be called “THE REGULATIONS FOR THE BACHELOR OF DENTAL SURGERY [BDS] DEGREE COURSE of the SRM Institute of Science and Technology, Chennai [Deemed University].

They shall come into force from the academic year 2011-2012 onwards.

The regulations and the syllabus are to subject to modification by the ACADEMIC COUNCIL and BOARD OF MANAGEMENT of the institute from time to time.

2. Eligibility for admission to B.D.S degree course:

- i. Candidates belonging to all categories except scheduled caste/ scheduled tribe 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.
- ii. For candidates belonging to scheduled caste/ scheduled tribes, the minimum marks for admission shall be 40% in lieu of 50% for general category.
- iii. Graduates candidate should have qualified for the BSc degree of an Indian university recognized by the association of Indian university and accepted as equivalent by the standing academic council board of management of this university. Those graduates should have taken one of the following subjects as major subject viz. Physics, chemistry, botany, zoology and one other prescribed science subject of study as ancillary. The candidate shall have passed the earlier qualifying examination [higher secondary examination or an equivalent examination] with the subjects Physics, chemistry, botany, zoology.
- iv. 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 college.
- v. Wherever the state board/ body of appropriate authority have taken into account only the +2 level marks to determine the class of the candidate and issue the statement of marks accordingly, that alone would be taken into consideration.
- vi. 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 subject of Physics,

chemistry, biology [botany, zoology] and English up to the 12th standard with 50% marks in aggregate.

- vii. The candidate should be medically fit.
- viii. Any criteria not covered under the above provisions, the ruling of the ELIGIBILITY COMMITTEE shall be adopted.

3. Age limit for admission :

Candidate should have completed the age of 17yrs as on 31st December of the year of admission.

4. Eligibility certificate :

Candidates who have passed any qualifying examination other than the higher secondary examination conducted by the government of Tamil Nadu shall obtain an eligibility certificate from the university by the remitting the prescribed fees along with the application form before admission.

5. Registration:

A candidate admitted to the course in S.R.M. Dental College the university, shall register his/ her name by remitting by the prescribed fees along with the application form before registration, duly filled in, through then head of the institute within the stipulate date.

6. Duration of course :

The period of certified study for the course of Degree of Bachelor of Dental Surgery shall extend over a minimum period of four academic years plus one year compulsory rotatory internship in a college.

7. Commencement of the course

From 1st August of Every Academic year.

8. Curriculum :

The Curriculum and the syllabus for the course shall be as prescribed from time to time by academic council and approved by the board of management of the University.

9. Working days in an academic year :

Each academic year shall consist of not less than 240 working days

10. Attendance required for admission to university examinations :

- a. No candidate shall be permitted to any one of the parts of BDS Examinations unless he/ she has attended the course in the subject for the prescribed period and produces the necessary certificate of study, attendance and satisfactory conduct from the head of the institution.
- b. A candidate is required to put in a minimum of 80% in both theory and practical/ clinical, separately in each subject to appear in the university examination.
- c. In case of the subject in which there is no examination at the end of the academic year, the percentage of attendance shall be not less than 70 %. However at the time of appearing for the professional examination in the subject the aggregate percentage of attendance in the subject should be 80 %.

Curriculum / structure of program**BACHELOR OF DENTAL SURGERY [BDS] DEGREE**

Subject Code	Name Of subject	Hours	
		Theory	Practical
First Year BDS			
BDS 15101	Human Anatomy, Embryology And Histology	132	198
BDS 15102	Human Physiology	154	88
BDS 15103	Medical Biochemistry	110	88
BDS 15104	Oral Anatomy, Physiology, Histology & Tooth Morphology	105	350
Second Year BDS			
BDS 15201	Materials used in dentistry	132	352
BDS 15202	General pathology and Haematology	88	88
BDS 15203	Medical microbiology	88	88
BDS 15204	General and Dental pharmacology and Therapeutics	88	88
BDS 15205	Preclinical prosthodontics	44	374
BDS 15206	Preclinical conservative	44	264

Subject Code	Name Of subject	Hours	
		Theory	Practical
Third Year BDS			
BDS 15301	Oral pathology and Microbiology	156	176
BDS 15302	General Medicine	60	90
BDS 15303	General surgery	60	90
Final Year BDS - Semester I			
BDS 15401	Public health dentistry	71	250
BDS 15402	Periodontology	95	193
BDS 15403	Orthodontics and Dentofacial orthopaedics	60	193
BDS 15404	Oral medicine and Radiology	69	193
Final Year BDS - Semester II			
BDS 15405	Oral and Maxillofacial surgery	93	270
BDS 15406	Conservative and Endodontics	135	300
BDS 15407	Prosthodontics and crown and bridge	139	300
BDS 15408	Paediatric and Preventive Dentistry	65	190

- d. In case of students who have failed in more than one subject and not permitted to go to the next higher class, the attendance in the subject in which the student have failed should not be less than 75%.
- e. In case of students who have failed in one subject and is permitted to go to next higher class, they should attend the internal assessment test (Theory and Practical) in the subject in which the student have failed and should attend the additional classes conducted by the department.
- f. A candidate lacking in the prescribed attendance in theory and practical/ clinical in any one subject in the first appearance shall not be permitted to appear for university examination.

11. Condonation of lack of attendance :

Condonation of shortage of attendance up to a maximum of 10% in the prescribed eligible attendance for admission to an examination rest 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 for Rs.300/- 15 days prior to the commencement of the theory examination. The head of the department and the head of the institution should satisfy themselves regarding the genuineness of the candidate's request while forwarding the application with their endorsement to the controller of the examination who would obtain the vice chancellor's approval for the candidate's admission to the examination. No application would be considered, if it is not forwarded through the proper channel.

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

- a. Any illness affecting the candidate. [The candidate should submit to the head of the institute a medical certificate from a registered medical practitioner soon after he/ she returns to the institute after treatment]
- b. Any unforeseen tragedy in the family. [The parent guardian should give in writing the reason for the wards 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 officer in-charge of the student activities in the Institution to endorse the leave]
- d. Any other leave [Which doesn't fall under the category of a,b&c mentioned above] the Head of the Institution deems reasonable for recommendation for approval by the Vice chancellor for condonation.

12. Evaluation :

Evaluation is a continuous process which is based upon criteria developed by the concern authorities with certain objectives to assess the performance of the learner. This also indirectly helps in the measurement of effectiveness and quality of the concerned BDS program.

Evaluation is achieved by two processes

- Formative or internal assessment
- Summative or university examinations

Formative evaluation is done through a series of test and examination conducted periodically by the institution.

Summative evaluation is done by the university through examination conducted at the end of the specified course.

13. Methods of evaluation

Evaluation may be achieved by the following tested methods:

- Written test
- Practical
- Clinical examination
- Viva voce

14. Internal assessment examination and Model practical examination

The continuing theory assessment examinations may be held frequently at least 6 times in a particular year / 3 times in a semester and practical assessment examination may be held at least 2 times in a particular year / one time in a semester and the average marks of these examinations should be considered. At least 10% out of the total marks in each subject for both theory and practicals and clinical examinations should be set aside for the internal assessment examinations

Internal assessment marks (Theory) = 10

Internal assessment marks (Practical/clinical) = 10

14.1 Internal assessment marks required for admission to University examination

A minimum of 35% of internal assessment marks is required for a student to be permitted to appear for the University examination. A candidate should secure a minimum of 7 marks out of the 20 marks allotted for the internal assessment exam (Theory 10 marks & practical / clinical 10 marks).

In case of students who have failed in one or more than one subject, the internal marks that they have obtained in the first appearance will not be valid and the students should appear for the internal assessment test (theory and practical) and obtain new internal assessment marks, however the marks obtained by these students for the record in their first appearance can be carried over to the subsequent appearance.

14.2 Scheme of University examination:

Every year two University Examinations are conducted, a regular and a Supplementary Exam.

Regular Exams are conducted in the Month of August and followed by a supplementary during month of February in every academic year.

(MODEL QUESTION PATTERN)
B.D.S. DEGREE EXAMINATIONS
SRM UNIVERSITY

Time : 3 Hours

Max. Marks : 70

PART – A (2 x 10 = 20 Marks)

Answer All the Questions

1. -----.
2. -----.

PART – B (8 x 5 = 40 Marks)

Answer All the Questions

1. -----.
2. -----.
3. -----.
4. -----.
5. -----.
6. -----.
7. -----.
8. -----.
9. -----.
10. -----.

PART – C (5 x 2 = 10 Marks)

Answer All the Questions

11. -----.
12. -----.
13. -----.
14. -----.
15. -----.

Written examination

1. The written examination in each subject shall consist of one paper of 3 hours duration and shall have a maximum of 70 marks
2. Each paper will be divided into three parts A, B, C as follows

3. Mark distribution

Section A	2 Long essays, 10 marks each	2 X 10 = 20
Section B	8 Short essays, 5 marks each	8 X 5 = 40
Section C	5 Short answers, 2 marks each	5 X 2 = 10

	Total	70

15. Criteria for pass:

50% percent of the total marks in any subject computed as aggregate for theory i.e. written, viva voce and internal assessment and practicals including internal assessment separately is essential for a pass in all years of study.

- For the declaration of pass in a subject, a candidate shall secure 50% marks in the university examination both in theory and practical/ clinical examination separately as stipulated below:
- A candidate shall secure 50% marks in aggregate in theory including university written examination, viva voce and internal assessment (theory) combined together.
- A candidate shall secure 50% marks in aggregate in practical / clinical including university practical / clinical examination and internal assessment (practical/ clinical) combined together.
- In case of preclinical prosthetic dentistry and preclinical conservative dentistry in II BDS, where there is no written examination, minimum for pass is 50% of marks including university practical examination, viva voce and internal assessment combined together.

BACHELOR OF DENTAL SURGERY (B.DS.) DEGREE
MARKS DISTRIBUTION WITH PASSING MINIMUM

Subject Code	Subject Title	Internal Assessment				University Exam.			Aggregate / Overall	
		Theory	Practical	Total		Theory	Practical	Oral	Min.	Max
				Min.	Max.					
BDS FIRST YEAR										
BDS 15101	Human Anatomy, Embryology And Histology	10	10	7	20	70	90	20	100	200
BDS 15102	Human Physiology	10	10	7	20	70	90	20	100	200
BDS 15103	Medical Biochemistry	10	10	7	20	70	90	20	100	200
BDS 15104	Oral Anatomy, Physiology, Histology & Tooth Morphology	10	10	7	20	70	90	20	100	200
BDS SECOND YEAR										
BDS 15201	Materials used in dentistry	10	10	7	20	70	90	20	100	200
BDS 15202	General pathology and Haematology	10	10	7	20	70	90	20	100	200
BDS 15203	Medical microbiology	10	10	7	20	70	90	20	100	200
BDS 15204	General and Dental pharmacology and Therapeutics	10	10	7	20	70	90	20	100	200
BDS 15205	Preclinical prosthodontics	-	20	7	20	-	60	20	50	100
BDS 15206	Preclinical conservative	-	20	7	20	-	60	20	50	100

BDS THIRD YEAR										
BDS 15301	Oral pathology and Microbiology	10	10	7	20	70	90	20	100	200
BDS 15302	General Medicine	10	10	7	20	70	90	20	100	200
BDS 15303	General surgery	10	10	7	20	70	90	20	100	200
BDS FOURTH YEAR – SEMESTER I										
BDS 15401	Public health dentistry	10	10	7	20	70	90	20	100	200
BDS 15402	Periodontology	10	10	7	20	70	90	20	100	200
BDS 15403	Orthodontics and Dentofacial orthopaedics	10	10	7	20	70	90	20	100	200
BDS 15404	Oral medicine and Radiology	10	10	7	20	70	90	20	100	200
BDS FOURTH YEAR – SEMESTER II										
BDS 15405	Oral and Maxillofacial surgery	10	10	7	20	70	90	20	100	200
BDS 15406	Conservative and Endodontics	10	10	7	20	70	90	20	100	200
BDS 15407	Prosthodontics and crown and bridge	10	10	7	20	70	90	20	100	200
BDS 15408	Paediatric and Preventive Dentistry	10	10	7	20	70	90	20	100	200

16. Promotion criteria :

For I BDS to II BDS : Any candidate who fails in one subject in an examination is permitted to go to the next higher class and appear for the subject and complete it successfully before he is permitted to appear for the next higher examination.

For III BDS: Any candidate who fails in one subject in the III BDS examination is permitted to go to the 1st Semester of the Final year BDS. However he/she has to complete all the third year subjects successfully before entering the 2nd semester of the final year BDS.

For IV BDS: Any candidate who fails in any subject in final year first semester examination is permitted to go to the next semester class and appear for the subject and complete it successfully before entering the internship programme.

Any Student who does not clear the BDS course in all the subjects ***within a period of 9 years, including one year compulsory rotatory paid internship*** from the date of admission shall be discharged from the course.

17. Classification

- Candidates who have passed all the subjects, at the first appearance and obtained 75% of marks and above, in all subject he/she had appeared shall be awarded with first class with distinction.
- Candidates who have passed all the subjects at the first appearance and obtained **60%** of marks and above, in all subjects he/she appeared shall be awarded with first class.
- All other successful candidates shall be declared to have passed in second class.

18. CURRICULUM FOR INTERNSHIP

- The duration of internship shall be one year.
- The internship shall be compulsory and rotating as per the regulations prescribed by the DCI.
- The degree – BDS shall be granted after completion of internship.
- The compulsory rotatory internship training shall be in Community Dentistry, Periodontics, Orthodontics, Oral medicine and radiology, Oral Pathology, Oral Surgery, Conservative dentistry, Prosthodontics, Pedodontics.
- Period of posting:

Clinical Department	Duration of Posting
1. Oral Medicine and Radiology	1 month
2. Oral and Maxillo facial Surgery	1 ½ month
3. Prosthodontics	1 ½ month

4. Periodontics	1 month
5. Conservative Dentistry	1 month
6. Pedodontics	1 month
7. Oral Pathology and Microbiology	15 days
8. Orthodontics	1 month
9. Community Dentistry/Rural services	3 months
10. Elective	15 days

19. Readmission after break of study

- a. Candidates having a break of study of 5 years and above or more than two spells of break will be considered for re-admission.
- b. The calculation of the break of study of the candidate for re-admission shall be calculated from the date of first discontinuance of the course.
- c. Candidate 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-admission of candidates are subject to the approval of Vice chancellor.

20. Migration/ transfer of candidates :

- a. Migration or transfer of candidates from one recognized dental college to another recognized dental college shall be granted as per the recommendations and regulations of the dental council of India.
- b. The provision of combination of attendance shall be granted to a transferee for admission to the university examinations with the approval of the vice chancellor.
- c. All migration/ transfers are subject to the approval of the vice chancellor.

BDS FIRST YEAR

BDS15101 Human Anatomy, Embryology and Histology

THEORY (135 HOURS)

1. Introduction to Anatomy: (Lectures = 10 Hours)*

*(These 10 Lectures are not included for Examinations)

1. Origin of Universe, Origin of earth, Origin of Life, Introduction to Living organism and vital activities.
2. Evolution of Animal kingdom, Evolution of Primates and Man.
3. Introduction to Human Anatomy, Tissues of the body, Organs and Outline of Systems of the Human body, Anatomical position, terms used in Anatomy.
4. Introduction to Osteology, Classification of the Human skeleton.
5. Introduction to Joints – Classification of the joints and anatomy of each type of joint.
6. Introduction to Muscular system – Classification of muscles, Types of skeletal muscles, types of movements.
7. Introduction to the Nervous system and Special sense organs.
8. Respiratory system, Cardio vascular system and Lymphatic system.
9. Digestive system and Endocrine system.
10. Reproductive system, excretory system, and Integumentary system.

2. Gross Anatomy – Theory (Lectures = 45 Hours)

1. Typical spinal nerve
2. Innervations of skeletal muscles, Muscle tone and tendon reflex
3. Scalp and Temple region- structure, arteries, veins and nerves
4. Superficial structures in Face, Muscles of Face and Facial palsy
5. Side of the Neck, Posterior triangle of the Neck – Boundaries and contents
6. Muscles, blood vessels and nerves of the back of neck, and Sub occipital triangle
7. Anterior triangle of the Neck – Boundaries and contents
8. Cranial Cavity and Meninges of the brain
9. Dural venous sinuses and veins of the brain
10. The pituitary gland

11. The Thyroid gland and parathyroid glands
12. The Brachiocephalic trunk and Common Carotid arteries
13. The External Carotid artery and Internal carotid artery
14. Sub clavian artery and Vertebral artery
15. Veins of the Head and neck
16. The Sympathetic nervous system
17. The Cervical plexus
18. Deep cervical fascia and Carotid sheath
19. The lymphatic drainage of the Head and Neck
20. The Lacrimal gland and Lacrimal apparatus
21. The Orbit and Extra Ocular muscles
22. The parotid gland
23. The Muscles of Mastication, the Maxillary artery.
24. The Temporomandibular joint, Clinical Anatomy.
25. The Submandibular region -Submandibular and sublingual salivary glands
26. The Oral cavity and palatine tonsil, Tongue - extrinsic and intrinsic muscles of the tongue.
27. The Nasal cavity , Para nasal sinuses
28. The pharynx
29. The Larynx
30. The joints of the Neck

3. Neuro Anatomy – Theory (Lectures = 15 Hours)

1. Introduction to the Central Nervous system
2. The gross features of the spinal cord and spinal nerves
3. The sectional anatomy of spinal cord, Grey and White matter
4. Sensory tracts of the spinal cord
5. Descending tracts of the spinal cord
6. Brain stem.
7. The Cerebellum
8. The Cerebral hemispheres and functional areas.
9. Ventricles of the brain and circulation of CSF

10. Blood supply to the brain and Circle of Willis
11. The Diencephalon
12. Autonomic Nervous system.

4. Anatomy of the Cranial Nerves -Theory (Lectures = 15 Hours)

1. The olfactory nerve & Optic nerve
2. The Occulomotor nerve
3. The Trochlear nerve
4. The Trigeminal nerve functions and nuclei and trigeminal neuralgia
5. The Ophthalmic division of trigeminal nerve
6. The Maxillary division of the trigeminal nerve
7. The Mandibular division of the trigeminal nerve
8. The Abduct nerve
9. The Facial nerve
10. The Vestibulocochlear nerve
11. The Glossopharyngeal nerve
12. The Vagus nerve.
13. The Accessory nerve
14. The Hypoglossal nerve

Section B. HUMAN EMBRYOLOGY

Theory (Lectures = 30 Hours)

General Embryology

1. Male and Female Reproductive system
2. Gametogenesis - Spermatogenesis and Oogenesis
3. Ovulation, Corpus Luteum, Fertilization, Effects of fertilization, Zygote
4. Mendel's Law
5. Chromosome and karyo typing
6. Gene structure and modes of inheritance
7. Clinical correlates of Chromosomal abnormalities, Contraceptive methods, In vitro fertilization
8. Cleavage, Morulla
9. Blastula and embryonic potencies
10. Implantation and Ectopic pregnancy
11. Formation of Bi laminar germ disc,
12. Amniotic cavity and Chorionic cavity
13. Formation of Primitive streak, Notochord, Neural plate and Neural tube
14. Formation of Tri laminar Germ disc, Intra embryonic mesoderm, Somites
15. Folding of the embryo and derivatives of Germ layers
16. Fetal membranes and Placenta
17. Twinning and Congenital Malformations

Systemic Embryology

1. Development of skull, mandible and vertebral column.
2. Development of Aortic arches
3. Development of Pharynx and Larynx
4. Development of Pharyngeal Arches, Pouches, Clefts and their derivatives
5. Development of Tongue, Thyroid gland
6. Development of Face, Lip, Jaw, Oral Cavity and Palate
7. Development of Nasal cavity and Para nasal sinuses
8. Development of tonsil and parathyroid gland.
9. Development of eye and Lacrimal gland

10. Development of Mandible and teeth
11. Development of Salivary glands
12. Formation of Neural tube, Spinal cord and neural tube defects
13. Development of Brain and Spinal cord and Pituitary gland

Section C: HUMAN HISTOLOGY

Theory Lectures = (20 Hours)

General Histology (5 Hours)

1. Classification of Epithelial tissue & glandular tissue
2. Classification of connective tissue
3. Classification of Muscular tissue.
4. Classification of Nervous tissue

Systemic Histology (15 Hours)

1. Cardiovascular system

Aorta – T.S., Large Artery – T.S, Medium sized artery - T.S. Large vein – T.S. Medium sized Vein – T.S.

2. Lymphatic system

Lymph node and Tonsil, Thymus and Spleen

3. Integumentary system

Thick skin, Thin skin

4. Digestive system

Salivary glands – Parotid gland, Sublingual gland and Sub mandibular gland

Tooth, lip, hard palate, Tongue and Esophagus

Stomach & Duodenum

Jejunum, ileum, appendix , large intestine.

Liver , gallbladder & pancreas.

5. Respiratory system

Trachea , epiglottis and Lung

6. Endocrine system

Hypophysis cerebri and Thyroid gland

Para thyroid gland and Supra renal gland

7. Excretory system

Kidney

Ureter & urinary bladder.

8. Reproductive system

Ovary & testes.

9. Nervous system

Peripheral nerve, optic nerve

Ganglion –Sensory, Motor, Sympathetic ganglion and Parasympathetic ganglion

PRACTICALS (150 Hours)

1. Gross Anatomy Practicals (40 Hours)

Demonstration of Dissected specimens

2. Clinical Anatomy :(10 hours)

Surface anatomy of bony land marks & Blood vessels of upper limb.

Surface anatomy of Deltoid region

Surface anatomy of Gluteal region

Surface anatomy of bony land marks & Blood vessels of Head & neck

3. Neuro Anatomy Practicals (10 Hours)

Demonstration of the Brain and Spinal cord specimens

4. Histology Practicals (40 Hours)

Demonstration of Histology slides.

5. Osteology –Practical Demonstration (50 Hours) (2 Hours for each topic)

1. Vertebral column, Typical Cervical vertebra

2. Atlas, Axis and C7 Vertebra

3. General architecture of the Skull

4. External features of the skull

5. Norma Frontalis
6. Norma Lateralis
7. Norma Verticalis and Norma Occipitalis
8. Norma Basalis
9. The cranial cavity and base of the skull
10. Temporal fossa, Infra temporal fossa
11. Spheno paltine fossa
12. Mandible
13. Frontal bone and Parietal bone
14. Occipital bone
15. Temporal bone
16. Sphenoid bone
17. Maxilla
18. Zygomatic bone, lacrimal bone and Nasal bone
19. Ethmoid bone, Vomer and Inferior nasal choncha
20. Fetal skull and skull of a child
21. Age changes in skull
22. Age changes in Maxilla
23. Age changes in Mandible
24. Craniometry and Cranial indices
25. Cranio Facial Growth and development

Theory	135 Hours
Practical	150 Hours

Total Teaching Hours	----- 285 Hours -----
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Text Books

1. Cunningham's Manual of Practical Anatomy, Volume 3, Head and Neck and Brain. G.J. Romanes, 15th Edition, Oxford University Press, Oxford.
2. Essentials of Anatomy for Dentistry students. 1st Edition. D.R.Singh. Wolters Kluwer India Pvt. Ltd. 2010.

3. Last's Anatomy- Regional and Applied, 9th Edition. R.M.H. Mc Minn, Churchill Livingstone, London.
4. Essential Anatomy, 5th Edition. J.S.P. Lumey, J.L.Craven, and J.T. Aitken. Churchill Livingstone, London.
5. Gross Anatomy, 3rd Edition. Kyung Won Chung. Williams & Wilkins, Hong Kong, London.
6. Gross Anatomy, Richard S. Snell. 1st Edition (1990), Little Brown and Compant, London.
7. Human Anatomy – Vol.3, Head, Neck and Brain. Regional and Applied. B.D.Chaurasia 4th Edition. CBS Publishers and Distributors, New Delhi and Bangalore.
8. Essentials of Human Anatomy, Head and Neck Part II. 4th Edition (2005) A.K. Dutta. Current Books International, Kolkotta.
9. Illustrated Anatomy of the Head & Neck, Margaret. J. Fehrenbach , 3rd Edition
10. Clinical Neuro Anatomy 6th Edition, Richard.S.Snell,(2006) Williams & Wilkins
11. Text Book of Histology and a Practical Guide J. P. Gunasegaran, 1st Edition, 2007. Elsevier.
12. Langman's Medical Embryology, T.W. Saddler, 8th Edition (1995). Williams & Wilkins, London.

Reference Books

1. Clinical Oriented Anatomy, Keith L. Moore, Arthur F. Dalley. 5th Edition, (2001). Williams & Wilkins.
2. Grey's Anatomy, The Anatomical Basis of Medicine and Surgery. (Eds) Peter L. Williams, 38th Edition, (1995). ELBS with Churchill Livingstone, London.
3. Di Fiore's Atlas of Histology with functional correlation, Victor, P. Eroschnko. 8th Edition (1996). Williams and Wilkins, London.
4. Board Review Series, Embryology. James D. Fix and Ronald W. Dulek. 1994. Williams & Wilkins, London.

BDS15102 HUMAN PHYSIOLOGY

UNIT – I

INTRODUCTION TO PHYSIOLOGY:-

- General and cellular basis of medical physiology

GENERAL PHYSIOLOGY:-

- Structure and function of a cell
- Transport across the cell membrane.
- Ionic basis of excitation and conduction.
- Membrane potential – Action potential of nerve - fibre
- Membrane potential – Action potential of skeletal muscle.

MUSCLE NERVE PHYSIOLOGY:-

- Structure of Skeletal muscle
- Excitation, contraction coupling - Skeletal muscle
- Excitation, contraction coupling - Cardiac muscle
- Excitation, contraction coupling - Smooth muscle
- Structure and function of Nervous tissue
- Classification and properties of a nerve fibre
- Neuromuscular transmission
- Degeneration and Regeneration of in Peripheral nerve

BLOOD:-

- Composition and function of blood
- Plasma proteins
- Red blood cells,erythroipoisis,anemia,jundice
- Hemoglobin-fetal hemoglobin
- White blood cells- classification and immunity
- Platelets
- Coagulation of blood, bleeding disorders and anticoagulants
- Blood groups- Rh in compatiblity,blood transfusion
- Reticuloendothelial system
- Spleen and lymph
- Body fluids
- Blood volume

CARDIOVASCULAR SYSTEM:-

- Cardiac hemodynamics
- Origin and spread of conductive system in cardiac muscle
- Cardiac cycle
- Electrocardiogram
- Heart sounds
- Cardiac output
- Principle of circulation
- Cardiac vascular regulating mechanism
- Arterial blood pressure-hypertension
- Cardiac efficiency tests-Treadmill
- Regional circulation (cerebral, coronary, cutaneous & capillary)
- Cardio-vascular homeostasis' in health and disease
- Physiology of shock
- Stress physiology and cardiac failure

UNIT:II

RESPIRATION:-

- Physiological anatomy of respiratory system
- Mechanics of respiration
- Pulmonary circulation
- Alveolar ventilation
- Lung volumes and capacities
- Dead space
- Diffusion of gases
- Transport of respiratory gases
- Regulation of respiration(Nervous & chemical)
- Respiratory adjustments in health and disease
- Hypoxia, lung surfactant(IRDS)
- Physiology of high altitude
- Physiology of deep sea diving
- Artificial respiration
- Lung function test
- Cardio respiratory changes in exercise

EXCRETION:-

- Physiological anatomy of kidney
- Auto regulation- renal blood flow

- Structure of a nephron-JGA
- Mechanism of urine formation – counter current mechanism
- Acidification of urine
- Micturition
- Endocrine function of kidney
- Pathophysiology of renal disorders
- Kidney function tests
- Dialysis & Kidney transplantation
- Acid base balance
- Regulation of body fluids

GASTROINTESTINAL TRACT:-

- Physiological anatomy of Gastrointestinal tract
- Secretion, composition, function & regulation of salivary glands
- Mastication, deglutition, esophagus
- Secretion, composition, function & regulation of gastric juice
- Mechanism of HCl secretion, Vomiting
- Secretion, composition, function & regulation of pancreatic juice
- Secretion, composition, function & regulation of Bile
- Liver, gall bladder, liver function tests
- Small Intestine-movements, secretion, function & regulation of small intestinal juice
- Large intestine - movements, secretion, function & regulation of large intestinal juice
- Physiology of defecation
- Digestion and absorption of GIT
- GIT Hormones

UNIT:III

CENTRAL NERVOUS SYSTEM:-

- Neuron & Glial cells
- Myelination & Saltatory conduction
- Synaptic transmission, neurotransmitters
- Spinal cord
- Receptors & reflexes
- Sensory system-Pain
- Motor system, regulation of posture
- Basal ganglia & Reticular formation
- Cerebellum
- Cerebral cortex- Higher function of brain

- EEG, Sleep & Brain death
- CSF & Blood brain barrier (BBB)
- Autonomic nervous system (ANS)

SPECIAL SENSES:-

- Smell
- Taste
- Hearing
- Vision

UNIT:IV

ENDOCRINE SYSTEM:-

- Introduction to endocrinology – chemistry, storage, secretion & mechanism of hormonal action.
- Hypothalamopituitary axis
- Pituitary (Anterior & Posterior) Gland
- Growth hormone & Pathophysiology of growth hormone
- Thyroid gland- Biosynthesis, actions, regulation & Pathophysiology
- Parathyroid gland- Biosynthesis, Actions, regulation & Pathophysiology
- Role of hormones in regulation of calcium metabolism
- Calcitonin & Vitamin-D
- Role of hormones in regulation of blood sugar level
- Adrenocortical hormones- Synthesis, actions, regulation & Pathophysiology
- Adrenomedullary hormones- Synthesis, actions, regulation & Pathophysiology
- Local hormone- Prostaglandin, natriuretic polypeptide, Renin Angiotensin system, erythropoietin, melatonin.

REPRODUCTIVE SYSTEM:-

- Male reproductive system
- Female reproductive system
- Pregnancy and lactation
- Family planning methods in male & female-contraception
- Feto placental unit – fetal circulation

ACID BASE BALANCE:-

- Role of blood, kidney and respiration
- Regulation of body temperature
- Basal metabolic rate (BMR)
- Regulation of water and electrolyte balance

CLINICAL PHYSIOLOGY

PHYSIOLOGY PRACTICALS

1. The Compound microscope
2. The Haemocytometer
3. Enumeration of Red Blood Cells
4. Enumeration of White Blood Cells
5. Differential Leukocyte Count
6. Determination of Hemoglobin & indices
7. Determination of Blood Groups
8. Determination of Bleeding time & Clotting time
9. Determination of pulse & Blood Pressure

RECOMMENDED TEXT BOOKS

Human physiology for BDS – Prof A.K.Jain

REFERENCE TEXT BOOKS

Text book of medical physiology – Guyton

Essential of medical physiology – Sembulingam and Perma Sembulingam

BDS15103 MEDICAL BIOCHEMISTRY

INTRODUCTION TO CLINICAL BIOCHEMISTRY-METABOLIC AND HORMONAL CHANGES

1. CHEMISTRY OF CARBOHYDRATES

Classification and nomenclature - Aldoses and ketoses – Trioses, Tetroses
pentoses, Hexoses

Monosaccharides-Properties of monosaccharides - 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 , polyols like sorbitol, mannitol.

Disaccharides- Sucrose, Lactose and Maltose

Polysaccharides –Starch, Cellulose ,Glycogen & Inulin

Mucopolysaccharides or Glycosaminoglycans - Hyaluronic acid, Heparin, Chondroitin sulfate Keratan sulphate-chemical nature and biological importance.

Glycosides-Formation& Biological significance.

Biomedical importance of sugars.

2. 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 – Glycolysis

Citric acid cycle, HMP, Rapaport-Leubering cycle-Glycogenesis – their cellular and hormonal control – cyclic AMP Glycogenolysis and Neoglucogenesis. Role of Liver in carbohydrate metabolism. Regulation of blood sugar level. Diabetes Mellitus, Glycosuria Glucose tolerance test and its importance. Glycogen storage diseases, Hypoglycemia. Metabolism of Fructose & Galactose.

3. ENZYMES

Definition, nomenclature, classification, specificity of enzyme catalyzed reactions, coenzymes – mode of action of enzymes – Fischer's Lock and Key theory and Koshlands induced – Michaelis-Menten equation. Factors influencing enzyme activity– Enzyme inhibition – Competitive, Uncompetitive, Noncompetitive and allosteric. Isoenzymes – Enzymes of clinical importance. Immobilized enzymes and its significance. Antioxidant enzymes – SOD, GPX and Catalase. Therapeutic uses of enzymes.

4. BIOLOGICAL OXIDATION OR TISSUE RESPIRATION

The structural organization of mitochondria – power house of the cell – Electron transport system. - Oxidative Phosphorylation & Substrate level phosphorylation.

Redox potential, concept of free energy – high and low energy compounds – ATP as the common currency of bioenergetics. Inhibitors of electron transport chain and uncouplers of oxidative phosphorylation.

5. CHEMISTRY OF PROTEINS

Classification of amino acids- Based on side chains, polarity, nutritional requirement, metabolic fate. Structure of amino acids. Physical properties of amino acids- optical properties- acid base properties of amino acids. Zwitter ion & isoelectric pH. D&L forms of amino acids.

Protein – classification Functional diversity-actin, myosin, keratin, haemoglobin (Hb), myoglobin. Peptides- formation & biological importance. Protein conformation – primary, secondary, tertiary & quaternary structure. Denaturation, colour reactions of proteins.

Plasma proteins – Immunoglobulins.

6. HAEMOGLOBIN

Structure, properties, Haemoglobin derivatives, abnormal haemoglobins and porphyrias

Synthesis and breakdown of haemoglobin-metabolism of bile pigments, jaundice.

7. PROTEIN METABOLISM

Digestion of proteins and the absorption of amino acids. Amino acid pool – protein turnover. 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 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. Catecholamines 3. Creatinine 4. Histamine 5. Serotonin 6. GABA 7. Melanin 8. SAM Transmethylation and its biological importance. Non-protein nitrogenous substances.

8. ACID BASE REGULATION

Buffers and their mode of action. The Henderson – Hasselbach equation – Anion gap -the buffer system in blood – Regulation of pH by respiratory and renal systems. Acidosis – alkalosis. Metabolic and respiratory.

Compensatory mechanisms.

9. CHEMISTRY OF LIPIDS

Lipid classification - fatty acids. Short and long chain fatty acids. Saturated fatty acids – Monounsaturated fatty acid – polyunsaturated fatty acid – cyclic fatty acids Triglycerides – simple and mixed. Phospholipids – Glycerophosphatides – amphipathic properties. Sphingomyelins. Glycolipids- Cerebrosides & Gangliosides – and their nature. Sterols – Cholesterol and related compounds – Bile acids, Androgens, Estrogens, Progesterone, Cortisol, Aldosterone and Vitamin D & its biological significance .Lipoproteins- chylomicrons, VLDL, LDL, HDL.

10. LIPID METABOLISM

Digestion and absorption of dietary lipids. Transport of lipids in serum. Metabolism of adipose tissue, β -oxidation of fatty acids formation and metabolism of ketone bodies – ketosis, Outlines of fatty acid synthesis. Fatty liver & lipotropic factors. Cholesterol metabolism- general outline of cholesterol synthesis, its regulation. Excretion of cholesterol -- Serum cholesterol and its relation totherosclerosis.

Integration of carbohydrates, protein and lipids metabolism

11. NUCLEIC ACIDS

Elementary knowledge of DNA & RNA – Base composition. Nucleosides & Nucleotides – Basic structure of DNA. Different types of RNA.. Genetic code – Basic reactions leading to protein biosynthesis – Replication – Transcription – Translation – Anti metabolites and Antibiotics that inhibit protein biosynthesis.

12. METABOLISM OF NUCLEIC ACID

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

13. NUTRITION

Balanced diet, Recommended Dietary Allowance (RDA)

Nutritional importance of carbohydrates- dietary fibre.

Nutritional importance of proteins- nitrogen balance, amino acid index, limiting amino acids, essential amino acids, biological value of protein, chemical score, protein energy malnutrition- marasmus & kwashiorkor.

Nutritional importance of fats- essential fatty acids, Body Mass Index (BMI) , Obesity.

Caloric value of foods- Recommended Dietary Allowance),SDA (Specific Dynamic Action), RQ(Respiratory Quotient) ,BMR (Basal Metabolic Rate)- determination, factors influencing BMR.

14. VITAMINS & MINERALS

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

Macrominerals and microminerals (Trace elements). Sources, functions, requirements, absorption with reference to calcium, phosphorus and Iron. Biological functions of minerals like sodium, potassium, magnesium, Iodine, copper, zinc and fluoride.

PRACTICALS

1. QUALITATIVE ANALYSIS

1. Reactions of Carbohydrates
2. Analysis of abnormal constituents of urine.

2. DEMONSTRATION

1. Starch: hydrolysis by acids.
2. Reactions of Proteins.
3. Reactions of Lipids.
4. Milk analysis.
5. Analysis of normal constituents of urine.
- 6 Chromatography – sugars and amino acids.
7. Gastric analysis- total and free acids.
8. Glucose Tolerance Test (GTT)
9. Electrophoresis of plasma proteins

3. QUANTITATIVE ANALYSIS: COLORIMETRY

1. Estimation of blood sugar.
2. Estimation of serum total proteins.
3. Estimation of blood urea.
4. Estimation of serum creatinine.

4. GROUP WORK

1. Estimation of serum calcium.
2. Estimation of serum cholesterol.

5. SPOTTERS

6. BIOCEMICAL REPORTS

Books Recommended

1. Essentials of Biochemistry – U.Satyanarayana
2. Text book of Biochemistry – Chatterjea. M (Dental, Nursing & Pharmacy)
- 3 Concepts of Biochemistry (Theory & practical) A.C.Deb (for Dental science, Homeopathy, Nursing etc.,)

Reference Books:

1. Text book of Biochemistry for medical students – D.M. Vasudevan
2. Text book of Biochemistry – Agarwal.
3. Harper's Biochemistry – Robert K. Murray, Daryl K. Garnner, Peter A. Mayes, and Victor W. Rodwell.
4. Text book of Medical Biochemistry – Dinesh Puri

BDS15104 ORAL ANATOMY, ORAL PHYSIOLOGY, ORAL HISTOLOGY AND TOOTH MORPHOLOGY

THEORY

TOPICS

Oral Histology

1. Development of teeth
2. Enamel
3. Dentine
4. Pulp
5. Cementum
6. Periodontal Ligament
7. Alveolar Bone
8. Oral Mucous Membrane
9. Salivary Gland
10. Theories of eruption and shedding
11. Histochemistry of Oral tissues

Embryology

1. Development of Face

Oral Anatomy

1. Maxillary sinus
2. Tempromandibular ligament

Tooth Morphology

1. Introduction
2. Parts of a teeth
3. Definitions
4. Nomenclature
5. Deciduous & Permanent Dentition. Its Differences
6. Perm. & Deci. Max. Central Incisor.
7. Perm. & Deci. Mandi. Central Incisor

8. Perm. & Deci. Max.Lateral Incisor
9. Perm. & Deci. Mandi. Lateral Incisor
10. Differences between Max. &Mandi. Incisor
11. Perm. &Dec. Max. Canine
12. Perm. &Dec.Mandi. Canine
13. Max. 1st Premolar
14. Mandi.1st Premolar
15. Maxi.2nd Premolar.
16. Mandi.2nd Premolar
17. Dec &Perm.Maxi.1st Molar
18. Perm Maxi 2nd Molar
19. Dec &Perm Mandi.1st Molar
20. Mand.perm 2nd molar
21. Third Molars

PRACTICAL SYLLABUS

Histology Slides

1. Development of Teeth.
 - a). Bud Stage
 - b). Bell Stage
2. Enamel
 - a) Incremental lines of Retzius
 - b) Enamel Spindles, Tufts& Lamellae
3. Dentine
 - a) D.E Junction
 - b) Interglobular Dentine
 - c) Tomes granular Layer
 - d) Dead Tracts
4. Cementum
 - a) Cellular Cementum
 - b) Acellular Cementun
5. Pulp

6. Periodontal Ligament
7. Salivary Gland
 - a) Mucous
 - b) Serous
8. Oral Mucous Membrane
 - a) Ortho Keratinized Epithelium
 - b) Para Keratinized Epithelium
 - c) Fungiform Papillae
 - d) Filiform Papillae
 - e) Non- Keratinized Epithelium

Tooth Morphology

WAX CARVING

3 Times Natural size

Max. Central incisor, Canine, 1st Premolar, 1st Molar

Mandi. 1st Premolar, 1st Molar

NATURAL SIZE

Right upper Maxillary Teeth from Central incisor to 2nd Molar

Left lower Mandibular Teeth from Central incisor to 2nd Molar

GROUND SECTION OF TEETH

Longitudinal Section- Preparation & Mounting of section.

Cross Section- Preparation & Mounting of section.

SPOTTERS

1. Identification of teeth.
2. Age determination of the cast provided.

SUGGESTED TEXT BOOKS FOR REFERENCE

1. Wheelers-Dental Anatomy, Physiology & Occlusion - 8th Edition
2. Orbans- Textbook of Oral Histology & Embryology - 12th Edition
3. Tencate's-Textbook of Oral Histology - 7th Edition
4. Jenkins- Textbook of Oral Physiology

BDS15201 DENTAL MATERIALS SYLLABUS

(Conservative dentistry)

1. Performance standards for dental materials

To gain an understanding of dental materials, a basic knowledge of their atomic or molecular structure, their behavior during handling and use in the oral environment.

2. Structure of matter and Principals of Adhesion

This chapter presents a short review of matter as a foundation for basic understanding of dental materials.

3. Properties of Dental Materials

Physical and Mechanical properties of materials are based on the laws of mechanics, acoustics, optics, thermodynamics, electricity, magnetism, radiation, atomic structure or nuclear phenomena. These properties have been discussed in relation to the dental environment.

4. Biocompatibility of Dental Materials

Biocompatibility is a fundamental requirement for any restorative material. This chapter presents an overview of the types of biological responses that materials may cause, and the anatomical aspects of the oral cavity that influence or modify biological responses to materials.

5. Hydrocolloid Impression Materials

Hydrocolloid refers to a colloid that contains water as a dispersion phase. Agar and Alginate are referred to as reversible and irreversible hydrocolloids respectively. This Chapter deals with their extensive usage in dentistry along with their composition, properties and method of manipulation.

6. Nonaqueous Elastomeric Impression Materials

Elastomers are a group of rubbery polymers, which are either chemically or physically cross-linked. They can be easily stretched and rapidly recover their original dimensions when the applied stress is released.

7. Inelastic Impression Materials

Inelastic impression materials exhibit an insignificant amount of elastic deformation when subjected to bending or tensile stresses. These materials include impression plaster, impression compound and ZOE impression paste.

8. Gypsum Products

Gypsum products are used in dentistry for the preparation of study models for oral and maxillofacial structures and as important auxiliary materials for dental laboratory operations that are involved in the production of dental prostheses. Various types of gypsum products, their working and setting times and their roles in different clinical situations have been discussed

9. Chemistry of Synthetic Resins

This chapter deals with the chemistry involved in polymerization of different synthetic resins, their formation of byproduct and also the various advantages and disadvantages of various resins.

10. Restorative Resins

Restorative resins or dental composites are highly crosslinked polymeric materials reinforced by a dispersion of glass, crystalline or resin filler particles and /or short fibers bound to the matrix by silane coupling agents. Various aspects related to dental composites have been discussed in length.

11. Bonding

The importance of bonding, various techniques involved in bonding of dental materials in different situations has been elaborated in this chapter. A brief outline of evolution of dental adhesives has also been discussed.

12. Solidification and Microstructure of Metals

Microstructure refers to the structural appearance of a metal revealed by microscopic imaging of the chemically or electrolytically etched surface of a flat, polished specimen. This chapter discusses the microstructure and solidification of various metals used in dentistry.

13. Constitution of Alloys

This chapter deals with the various equilibrium phases present in an alloy.

14. Corrosion

Basic understanding of corrosive process will help the clinician to formulate a restoration which can withstand corrosion for a longer period of time. This chapter deals with the types, causes and the various methods employed to prevent corrosion.

15. Dental Amalgam

- i. Structure and Properties
- ii. Technical Consideration

Dental amalgam constitutes the track record of longest serving restoration in the history of mankind. This chapters provides a lucid presentation of different composition of dental amalgams with their properties and manipulation technics

16. Direct Filling Gold and Its Manipulation

This chapter provides an insight into the various types of direct filling gold available for restorative purpose in dentistry. Also the various technical factors involved in manipulation have also been discussed.

17. Dental Casting alloys

Dental casting alloys represent the noble and base metal alloys. These alloys have been dealt extensively in this chapter.

18. Inlay Casting Wax

Inlay wax is a specialized dental wax that can be applied to dies to form direct or indirect patterns for the lost-wax technique used for casting metals or hot pressing of ceramics. Various properties of inlay wax along with their method of application for direct and indirect techniques for taking wax pattern have been discussed.

19. Investments for Small Casting

This chapter discusses the different types of investments used for different types of alloy, their properties and various techniques employed to compensate for the alloy shrinkage.

20. Casting Procedure for Dental Alloys

Basic knowledge and understanding of the casting procedures is a guiding force for the long-term succemss of the metal restorations. This chapter deals extensively with the casting procedures, casting failures and their probable cause and methods to overcome various casting failures.

21. Dental Cements for Restorations and Pulp Protection

Dental cements forms the mainstay in dental applications and therefore a detailed understanding of the properties and their uses in various clinical situations have been extensively covered in this chapter.

22. Dental Cements for Bonding Application

Dental cements that can bond to the tooth structure includes, Glass Ionomer cement, Zinc Polycarboxylate and Silicate cements. This chapter discusses the evolution of cements used for bonding with their properties and uses alongwith their advantages and disadvantages.

23. Dental Ceramics

Dental ceramic is an inorganic compound with nonmetallic properties typically consisting of oxygen and one or more metallic or semi-metallic elements that is formulated to produce the whole or part of a ceramic based dental prosthesis. This chapter presents an overview of the evolution of dental ceramics, advances in the ceramic technology and their various processing methods.

24. Finishing and Polishing Materials

Finished and polished restorations provides good oral care, optimum function and enhanced esthetics. This chapter provides an insight into the various finishing and polishing materials available in the field of dentistry and also their method of application for longevity of the restoration.

RECOMMENDED TEXT BOOK : DENTAL MATERIALS BY PHILLIPS
(ANUSAVICE)

REFERENCE BOOK : DENTAL MATERIALS BY CRAIG

MATERIALS USED IN DENTISTRY (PROSTHETICS)

INTRODUCTION TO THE SCIENCE OF DENTISTRY.

Describe the structure of the teeth according to their function

PROPERTIES USED TO CHARACTERIZE MATERIALS:

Write about: Chemical, Physics, Mechanical, Thermal & Biological properties of Material

GYPSUM & INVESTMENT PLASTER

Write composition of gypsum

Know manufacturing of gypsum

Classify gypsum

Describe the handling & manipulation of gypsum

Discuss the characteristics & properties of gypsum Understand and uses of gypsum

Know advantages & disadvantages

IMPRESSION MATERIALS

Classify & write the composition of impression material

Describe the clinical handling of materials

Understand the use of impression materials

Know advantage & disadvantage of impression material

WAXES

Classify Waxes & ideal properties

Write the composition of Waxes

Describe the properties & handling of Waxes Enumerate and know advantage & disadvantage Inlay casting wax

METALS & ALLOYS

Describe structure of Metals & Alloys Solidification, Microstructure of Metals

Write the properties of Metals & Alloys Constitution of alloys

Classify the Metals & Alloys

Wrought alloys and casting Alloys

Understand the uses of Metals & Alloys

Knowledge about advantage & disadvantages

Do a cross comparison

DENTAL PROSTHETICS

Write about clasp design & different between cast & wrought wire & fixed partial denture

POLYMERS

Have knowledge about chemistry of polymers

Write the polymerization reaction

Know the composition of different polymerization

Discuss method & stages of polymerization Understand uses, advantage & disadvantages

LAB PROCEDURE FOR DENTAL PROSTHETICS

Do surveying & clasp designing

Know about denture base, separating media

CERAMICS

Write the composition of different Ceramics

Discuss their Physical & Chemical properties

Understand the uses of Ceramic

Know instrument & equipment

Discuss baking process

Know advantages of Ceramics and comparison with acrylic resin

Investments

ARTIFICIAL TEETH

Enumerate the type of artificial teeth

Discuss advantages & disadvantages of artificial teeth

Differentiate acrylic teeth & porcelain teeth

CASTING PROCEDURE

Discuss equipment & instruments used in this procedure

Discuss the process of the casting

Casting defects, shrinkage, compensation, preparation of master die, space former, investing

DENTAL PLAQUE

Discuss plaque & related diseases briefly

Know how to prevent Dental plaque

Emphasize the role of Fluoride

CLASSIFICATION OF CAVITY DESIGN

Classify the G. V. Black cavity designs

Discuss cavity preparation in consideration of material used

RESTORATIVE MATERIALS

Discuss Amalgam Unfilled resin

Know Composite

Write about glass ionomer

Describe ceramics

Know the metals used for Inlays

Write about veneers

Know about full coverage crown

Demonstrate knowledge of ceramic crown

ACID ETCHING AND ITS APPLICATION

Describe etching of enamel and dentine

Write about glass ionomer cements

Direct filling gold

Discuss porcelain

Know about fissure sealant

Discuss uses of acid etching

Enumerate advantages and disadvantages and the uses of material

DENTAL CEMENT

Classify cements

Write the composition of dental cements

Discuss their handling and properties

Pulp protective agents

Enumerate their advantage and disadvantages

Discuss uses (Lining, Sub-lining, luting and filling)

PRACTICALS

To do manipulation and slab exercise of soft and hard plaster

To take impression e alginate

To take impression e elastomer impression

To take, model base

To handle the wax and do was carving

To do wire bending

To make alphabet clasp designing

To perform the surveying procedure in order to design clasp for partial dentures

To perform wax up and set up for acrylic furnishing and polishing

To know the casting and acrylic furnishing and polishing

To know the uses of ceramic and fabrication of crown and bridges

TEXT BOOK

1. Philip's Science of Dental Materials :- Anusavice 10th Edition
2. Restorative Dental Matrials - Robert G.Craig.

REFERENCE BOOK

1. Clinical Aspect of Dental Materials - Gladwin, Bagby.
2. Materials in Dentistry (Principles & Applications) Jack L. Ferracane
3. Applied Dental Materials John F. Mecabe
4. Dental Materials (properties & Manipulation) Craig, Powers, Wataha
5. Notes on Dental Materials E.C.Combe
6. Clinical Handling of Dental Materials Bernard G.N. Smith, Paul S. Wright, David Brown

**BDS15202 GENERAL PATHOLOGY AND HAEMATOLOGY
THEORY SYLLABUS (Theory - 65 Hours)**

I. CELL RESPONSE TO INJURY: (4 hours)

1. Degeneration (Fatty Liver Disorder)
2. Necrosis
3. Gangrene
4. Pathological Calcification (Disorder of metabolism)

II. INFLAMMATION AND HEALING REPAIR (15 hours)

1. Vascular changes – functions of inflammatory exudates
2. Chemical mediators
3. Phagocytosis
4. Chemotaxis
5. Granuloma (Leprosy, T.B, Syphilis, Actinomycosis, Maduramycosis)

REPAIR

1. Primary union
2. Secondary union
3. Granulation tissue
4. Complication of wound healing
5. Bone fracture healing

III. CIRCULATORY DISTURBANCES (HAEMO DYNAMIC CHANGES) - 8 hrs

1. Oedema
2. Shock
3. Thrombosis
4. Embolism
5. Infarction

IV. NEOPLASIA (12 hours)

1. Normal Cell cycle
2. Hyperplasia

3. Metaplasia
4. Hypertrophy
5. Atrophy
6. Nomenclature (Classification of tumours)
7. Differences between benign and malignant tumours
8. Aetiopathogenesis of neoplasia (Cancer)
9. Signs of malignancy
10. Chemical and physical carcinogens
11. Biological carcinogens(RNA &DNA Viruses)
12. Spread of tumours (Metastasis)
13. Lab diagnosis of cancer

V. HAEMATOLOGY

(Anaemias and Leukemias)

DISORDERS (10 hours)

1. Anaemias (Classification of anaemias)
2. Iron deficiency anaemia
3. Vitamin B12 deficiency anaemia (Megaloblastic anaemia)
4. Pernicious anaemia

VI. WBC DISORDERS (6 hours)

1. Agranulocytosis
2. Leucocytosis- Leucopenia, Leukemoid reactions
3. Leukaemias – ALL, AML,CML,CLL(FAB Classification)

VII. HAEMORRHAGIC DISORDERS (BLEEDING AND COAGULATION DISORDERS)

(3 hours)

1. Thrombocytopenia (ITP)
2. Haemophilia
3. Christmas disease- Haemophilia B

VIII. BLOOD GROUPING AND RH TYPING (2 hours)

- A. Principles of Blood grouping and Blood transfusion reactions
- B. Rh Incompatibility

PRACTICAL SYLLABUS (Practical – 60 Hours)

I. LIST OF HISTOPATHOLOGY SLIDES:-

1. Cloudy Swelling Kidney
2. Acute Appendicitis
3. Chronic Appendicitis
4. Granulation Tissue
5. Actinomycosis
6. Maduramycosis
7. Rhinosporidiosis
8. T.B Lymphnode
9. Filarial Lymph Adenitis
10. Red Hepatisation – Lung
11. Gray Hepatisation – Lung
12. C.V.C Lung
13. Squamous Papilloma
14. Squamous Carcinoma
15. Adeno Carcinoma
16. Pleomorphic Adenoma
17. Ameloblastoma
18. Fibro Adenoma Breast
19. Capillary Angioma – Skin
20. Cavemous Angioma
21. Secondary Deposits L.N
22. Osteo Clastoma
23. Osteo Sarcoma
24. Iron deficiency anaemia.

25. Chronic Myeloid Leukemia (CML)

II. LIST OF SPECIMENS:-

1. Fatty Liver
2. Pyelo Nephritis Kidney
3. Squamous cell carcinoma (Maxilla)
4. Ductal Carcinoma Breast
5. Chondroma (Hand)
6. Lymphoma (Lymphnode)

III. CLINICAL PATHOLOGY:-

A. INSTRUMENTS

1. RBC, WBC, Haemoglobin pipette
2. Wintrobe Tube
3. Westergren tube
4. Urinometer
5. Newbauer Chamber

B. BLOOD EXAMINATION

1. Estimation of Haemoglobin.
2. Estimation of RBC Count.
3. Estimation of WBC Count.

C. URINE EXAMINATION (Abnormal Constituents of urine)

1. Test for Protein (Heat Coagulation Test).
2. Test for Sugar (Benedicts Test).

RECOMMENDED TEXT BOOKS:

1. Text book of Pathology – Harsh Mohan – Jaypee brothers

REFERENCE TEXT BOOKS

1. Pathological basis of diseases – Kumar cotran Collins - Saunders

BDS15203 MEDICAL MICROBIOLOGY

THEORY:

UNIT I - GENERAL MICROBIOLOGY 10 hrs

Introduction

Brief History of Microbiology-with special ref to Antony Van Leeuwenhoek, Louis Pasteur, Robert Koch, Joseph Lister, Edward Jenner and Alexander Fleming.

Morphological Classification of Bacteria and Bacterial Anatomy.

Physiology of Bacteria

Culture media and anaerobic cultivation.

Sterilization

Disinfection

Antimicrobial Therapy.

Antibiotic sensitivity testing.

Infection.

UNIT II - IMMUNOLOGY 9hrs

Structure and functions of Immune system – with emphasis on T cells, B cells and Phagocytic cells

Antigens and Antibodies.

Antigen - Antibody reactions with emphasis on agglutination reactions and ELISA.

Immunity

Hypersensitivity

Immunizing Agents – Vaccines, Antisera, Immunization schedule.

UNIT III - SYSTEMATIC BACTERIOLOGY 20hrs

Staphylococcus - I

Staphylococcus - II

Streptococcus – I-Streptococcus pyogenes

Streptococcus – II –Viridans group.

Clostridium – I- Tetanus

Clostridium – II-Gas gangrene and Food poisoning

Nonsporing anaerobes
Actinomycetes
Mycobacterium tuberculosis
Mycobacterium leprae
Neisseria.
Enterobacteriaceae - E.coli
Enterobacteriaceae - Salmonella
Pseudomonas
Spirochaetes – Treponema palladium, Borrelia vincentii.

UNIT IV - VIROLOGY 10hrs

General properties of viruses –with emphasis on Morphology and Cultivation of viruses.

Herpes virus I

Herpes virus II

Polio virus

Paramyxovirus – Mumps virus and Measles virus.

Rabies virus

Hepatitis viruses

HIV – I

HIV – II

Oncogenic viruses

UNIT V - MYCOLOGY 6 hrs

Morphological classification of Fungi and lab diagnosis for fungal infections.

Dermatophytes.

Candida

Cryptococcus

Rhinosporidium

Aspergillus

UNIT VI - PARASITOLOGY 4hrs

Introduction to Parasitology - emphasis on parasites, hosts, vectors.

Amoeba – Entamoeba gingivalis.

Plasmodium – emphasis on P.vivax and P.falciparum.

Trichomonas and oral flagellates

UNIT VII - APPLIED MICROBIOLOGY 8hrs

Oral Microbial flora-In Health and Disease

Microbiology of Dental Plaque and Dental caries

Blood transfusion associated infections.

Hospital acquired Infections.

Universal Precautions.

Practicals (60 hours)

- Microscopy
- Gram staining
- Acid fast staining
- Demonstration classes
- Spotters- slides, specimens, instruments, media - in accordance with syllabus

Recommended Text books:

1. Text book of Microbiology – C.K.Jayaram Panicker.
2. Text book of Microbiology for Dental students – C.P.Baveja.

Reference books:

1. Immunology – Roitt
2. Bailey and Scotts Diagnostic Microbiology.
3. Practical Medical Microbiology – Mackie and Mc Cartney.

BDS15204 General and Dental pharmacology and Therapeutics**THEORY**

	TOPIC	No. of Hours
I.	GENERAL INTRODUCTION TO PHARMACOLOGY	1
II.	BASIC PRINCIPLES OF PHARMACOLOGY (General Pharmacology)	
	1. Routes of Administration of Drugs	2
	2. Pharmacokinetics	2
	3. Pharmacodynamics	1
	4. Factors Modifying Drug Action	1
	5. Adverse Drug Effects	2
III.	AUTONOMIC DRUGS	
	1. Cholinergic Drugs	1
	2. Drugs Blocking Muscarinic Cholinergic Receptors only	1
	3. Adrenergic Drugs	1
	4. Drugs Blocking Adrenergic Receptors	2
IV.	DRUGS AFFECTING CARDIOVASCULAR AND RENAL FUNCTION	
	1. Diuretics	1
	2. Drugs used in Myocardial Ischaemia	2
	3. Antihypertensive Drugs	2
	4. Drug therapy of Shock	1
V.	DRUGS ACTING ON CENTRAL NERVOUS SYSTEM	
	1. Sedative – Hypnotics	2
	2. General Anaesthetics	2
	3. Opioid Analgesics and Antagonists	2
VI.	LOCAL ANAESTHETICS	2
VII.	NON STEROIDAL ANTI INFLAMMATORY DRUGS	3
VIII.	DRUGS USED IN DISORDERS OF COAGULATION	
	1. Coagulants, Styptics and Anticoagulants	2
	2. Thrombolytics and Antithrombolytics	1
	3. Antiplatelet Drugs	1
IX.	HORMONES AND HORMONE ANTAGONISTS	
	1. Antidiabetic Drugs	2
	2. Adrenocorticosteroids	2
	3. Thyroid and Antithyroid Drugs	1
	4. Agents affecting Calcium Homeostasis	
	a. Calcium	1
	b. Vitamin D	
	c. Calcitonin	

	TOPIC	No. of Hours
	d. Bisphosphonates	
	e. Fluorides in Dentistry	
X.	CHEMOTHERAPY OF MICROBIAL DISEASES	
	1. Beta Lactam Antibiotics	3
	2. Tetracyclines and Chloramphenicol, Probiotics	2
	3. Aminoglycosides	1
	4. Fluoroquinolones	1
	5. Cotrimoxazole	1
	6. Macrolide Antibiotics	1
	7. Nitroimidazoles	1
	8. Miscellaneous Antimicrobial Drugs	
	a. Clindamycin	
	b. Vancomycin	
	c. Linezolid	1
	d. Spectinomycin	
	e. Teicoplanin	
	9. Chemotherapy of Tuberculosis	1
	10. Chemotherapy of Leprosy	1
	11. Antifungal Agents	2
	12. Antiviral Agents	2
XI.	CHEMOTHERAPY OF NEOPLASTIC DISEASES	3
XII.	DRUGS ACTING ON THE RESPIRATORY SYSTEM	
	1. Drugs used in the treatment of Bronchial Asthma	1
XIII.	DRUGS ACTING ON THE GASTROINTESTINAL SYSTEM	
	1. Drugs used in the treatment of Peptic Ulcer Disease	2
	2. Antiemetics	1
XIV.	MISCELLANEOUS AGENTS	
	1. Histamine H ₁ Receptor Blockers	1
	2. Drugs used in Migraine	1
	3. Antiseptics and Disinfectants	2
	4. Drug therapy of Neuralgias	1
	5. Enzymes in Dentistry	
	a. Trypsin	
	b. Chymotrypsin	1
	c. Serratiopeptidase	
	d. Hyaluronidase	

PRACTICAL SYLLABUS

A) EXPERIMENTS

1. NORMAL SALINE MOUTHWASH
2. HYPERTONIC SALINE MOUTH GARGLE
3. PROPHYLACTIC SOLUTION FOR DENTAL CARIES
4. CHLORHEXIDINE MOUTHWASH
5. DENTIFRICE CONTAINING ABRASIVE
6. STYPTIC DUSTING POWDER
7. POWDER FOR CLEANING DENTURE
8. POWDER FOR VINCENTS STOMATITIS
9. PASTE FOR DENTAL CARIES OR HYPERSENSITIVE DENTINE
10. PASTE FOR PULP CAPPING

B) PRESCRIPTIONS

1. ORAL CANDIDIASIS
2. DENTAL CARIES
3. APTHOUS STOMATITIS
4. ALLERGIC STOMATITIS
5. HERPES STOMATITIS
6. ANGULAR STOMATITIS OR CHEILITIS
7. GLOSSITIS
8. PERICORONITIS
9. ACUTE NECROTISING ULCERATIVE GINGIVITIS
10. CELLULITIS DUE TO DENTAL ORIGIN
11. PULPITIS
12. PREGNANT WOMAN WITH PULPITIS
13. ORAL ULCERATION DUE TO ILL FITTING DENTURE
14. ACUTE AMOEBIC DYSENTRY
15. SEVERE GASTROENTERITIS DUE TO E.COLI
16. HELICOBACTER PYLORI INFECTION
17. ENTERIC FEVER
18. ACUTE ATTACK OF CHOLERA
19. INSOMNIA DUE TO TOOTHACHE
20. STATUS EPILEPTICUS
21. TRIGEMINAL NEURALGIA

22. POSTOPERATIVE PAIN AFTER REDUCTION OF FRACTURE OF MANDIBLE
23. ANAPHYLACTIC SHOCK
24. ANGINA PECTORIS
25. MODERATE HYPERTENSION
26. STATUS ASTHMATICUS
27. TYPE II DIABETES MELLITUS
28. PEPTIC ULCER DISEASE
29. SEVERE ATTACK OF MIGRAINE
30. SEVERE CONTINUOUS BLEEDING AFTER TOOTH EXTRACTION
31. ACUTE OSTEOMYELITIS OF MANDIBLE.
32. ORAL LICHEN PLANUS
33. PROPHYLAXIS OF SUBACUTE BACTERIAL ENDOCARDITIS
34. TETANUS
35. BACTEREMIA DUE TO PSEUDOMONAS AERUGINOSA.
36. BILATERAL PULMONARY TUBERCULOSIS
37. ANTIRETROVIRAL REGIMEN FOR PROPHYLAXIS OF MOTHER TO CHILD TRANSMISSION
38. ACUTE ATTACK OF MALARIA DUE TO PLASMODIUM VIVAX
39. HYPERTHYROIDISM
40. MOTION SICKNESS - PROPHYLAXIS & TREATMENT

C) SPOTTERS

I DRUGS

1. TABLET PARACETAMOL
2. INJECTION PARACETAMOL
3. TABLET DICLOFENAC
4. INJECTION DICLOFENAC
5. SUPPOSITORY DICLOFENAC
6. OINTMENT DICLOFENAC
7. TABLET IBUPROFEN
8. TABLET ASPIRIN
9. TABLET NIMESULIDE
10. BENZYLAMINE MOUTHWASH
11. CAPSULE TRAMADOL
12. INJECTION TRAMADOL

13. TABLET DIAZEPAM
14. INJECTION DIAZEPAM
15. TABLET ALPRAZOLAM
16. INJECTION KETAMINE
17. TABLET PHENYTOIN
18. JELLY LIGNOCAINE
19. INJECTION LIGNOCAINE + ADRENALINE
20. CHLORHEXIDINE MOUTHWASH
21. CAPSULE AMOXICILLIN
22. TABLET AMOXICILLIN + CLAVULANIC ACID
23. INJECTION BENZYL PENICILLIN
24. CAPSULE CEPHALEXIN
25. TABLET LACTOBACILLUS
26. CAPSULE DOXYCYCLINE
27. TABLET CIPROFLOXACIN
28. EYEDROPS NORFLOXACIN
29. TABLET COTRIMOXAZOLE
30. INJECTION GENTAMICIN
31. TABLET ERYTHROMYCIN
32. TABLET METRONIDAZOLE
33. INJECTION METRONIDAZOLE
34. TABLET TINIDAZOLE
35. TABLET ACYCLOVIR
36. OINTMENT ACYCLOVIR
37. TABLET DAPSONE
38. TABLET AKT4
39. TABLET METHOTREXATE
40. TABLET FRUSEMIDE
41. INJECTION ATROPINE
42. TABLET HYOSCINE BUTYL BROMIDE
43. INJECTION DOPAMINE
44. INJECTION ADRENALINE
45. TABLET PROPRANOLOL
46. TABLET ATENOLOL
47. TABLET BACLOFEN

48. TABLET DIGOXIN
49. TABLET NITROGLYCERINE
50. PATCH NITROGLYCERINE
51. TABLET NIFEDIPINE
52. TABLET ENALAPRIL
53. INJECTION PHYTOMENADIONE
54. INJECTION ADRENOCROME MONOSEMICARBAZONE
55. TABLET ADRENOCROME MONOSEMICARBAZONE + ASCORBIC ACID + MENADIONE + DIBASIC CALCIUM PHOSPHATE + RUTIN
56. TABLET PHENIRAMINE MALEATE
57. INJECTION PHENIRAMINE MALEATE
58. TABLET LEVOCETIRIZINE
59. TABLET VITAMIN C
60. TABLET RIBOFLAVIN
61. TABLET ERGOTAMINE TARTRATE + CAFFEINE + BELLADONA + PARACETAMOL
62. TABLET SALBUTAMOL
63. TABLET RANITIDINE
64. CAPSULE LANSOPRAZOLE
65. TABLET METOCLOPRAMIDE
66. TABLET DOMPERIDONE
67. INJECTION INSULIN
68. TABLET GLIBENCLAMIDE
69. TABLET METFORMIN
70. TABLET PREDNISOLONE
71. TABLET CALCIUM
72. TABLET ALFACALCIDOL

II INSTRUMENTS

1. INTRAMUSCULAR SYRINGE - 2ML
2. INTRAVENOUS SYRINGE - 10 ML
3. INTRAVENOUS INFUSION SET
4. INSULIN SYRINGE - 1ML
5. MANTEAUX SYRINGE
6. INHALER

III PHOTOGRAPHS

1. GINGIVAL HYPERPLASIA
2. CLEFT LIP & CLEFT PALATE
3. ORAL CANDIDIASIS
4. HERPES SIMPLEX
5. TOOTH DISCOLOURATION
6. ORAL PIGMENTATION
7. XEROSTOMIA
8. ANGIOEDEMA
9. STEVENS JOHNSON SYNDROME
10. ORAL ULCERATION
11. BRUXISM

C) SPOTTERS

1. NYSTATIN MOUTHWASH
2. CAPSULE ZIDOVUDINE
3. TABLET CHLOROQUINE
4. TABLET TACROLIMUS
5. ORGANOPHOSPHATE INSECTICIDE
6. TABLET ASPIRIN + CLOPIDOGREL
7. TRANSDERMAL PATCH
8. SUPPOSITORY
9. OSTEONECROSIS OF THE JAW
10. PHOCOMELIA
11. CUSHING'S SYNDROME

BDS 15205 PRE CLINICAL PROSTHODONTICS

Theory

1. Introduction to Prosthodontics
 - Definitions, branches of Prosthodontics and its application in clinical dentistry.
 - General view of oral cavity and function of different areas of oral cavity.
2. Introduction to complete denture Prosthodontics
 - Definitions, terminologies used in complete denture, parts, surfaces, functions of complete denture, differences in clinical and laboratory procedures in the fabrication of complete dentures.
3. Anatomy of dentulous and edentulous arches and its significance in relations to complete dentures.
4. Casts
 - Definition ,cast ,model ,primary and secondary cast, dentulous and edentulous cast, beading,boxing,land area, types of casts, difference between primary and secondary cast, difference between cast and models, ideal requirements, dimensions of cast, importance of beading and boxing, uses of cast, applied dental materials.
5. Impression trays
 - Definition, classification, types, parts of the tray, significanace of parts-wax spacer, handle, finger rest and tissue stops. Design modifications uses.
6. Occlusal rims
 - Definition, materials, ideal requirements, guidelines, importance, significance, procedures in making, dimensions.
7. Denture bases
 - Definition, classification, requirements, applied dental materials, procedures in fabrication, technical applications and uses.
8. Maxillomandibular relationship
 - Definition, types, fundamentals relevant to laboratory procedures in complete denture. Centric relation-definition and its significances.
9. Articulators
 - Definition, classification, advantages and disadvantages, usage of articulators for complete dentures. Mean value articulators-parts, classification, uses, advantages and limitations. Procedure in articulation of cast in mean value articulator

10. Selection and arrangement of teeth

- Definitions- Occlusion. Over jet, over bite and key of occlusion, type of anterior and posterior teeth, anterior and posterior teeth selection in relevance to the pre-clinical exercise, principles of teeth arrangement (anterior, posterior, maxilla and mandible).

11. Occlusion in complete dentures

- Definition, fundamentals of occlusion, determinants, difference between natural teeth and artificial dentures, types of occlusion in complete denture, advantage and disadvantages of various occlusal schemes for CD compensatory curves- definition, significance.

12. Relining rebasing and repair

- Definition, indication and contraindication, advantages and disadvantages, methods, techniques involved in the process of relining, rebasing and repair, applied dental materials.

13. Processing of complete denture

- Wax up and carving, technical considerations in processing complete denture, in detail the procedures in processing and finishing of CD.

14. Introduction to RPD

- Definition, terminologies used in RPD, components parts, differences between cast partial denture and acrylic partial dentures, classification and types of partial dentures.

15. Classification partially edentulous conditions

- Introduction on different systems of classification, Kennedy classification-types, advantages, disadvantages, methods to classify and Applegate modifications.

16. Parts of cast partial denture

- Major And minor connector, direct and indirect retainers, rest, teeth and denture bases-types , requirements, classification, parts, preparatory procedures involved (rest seat, guide planes) and significance of component parts.

17. Surveyor And surveying

- Definition, types, parts of surveyor, method of surveying, uses of surveyor.

18. Designing of partial denture framework

- Fundamentals of biomechanics, RPD designing.
- Designing of connectors, retainers, rest, rest seat, teeth and denture bases (preclinical cast).

19. Introduction to fixed partial denture
 - Definitions, parts of FPD, classification and types of FPD, differences and method of support between removable and fixed partial dentures.
20. Types of retainer, connector, and pontic in the FPD and their significance.
21. Casting procedures
 - Fundamentals of casting and casting machine, laboratory procedures involved in the fabrication of anterior and posterior metal crown, applied dental materials to avoid them. Finishing of castings.
22. Fundamentals of implant prosthodontics
 - Types, parts of implants, method of obtaining implant support, fundamental differences between support of natural teeth, teeth supported dentures and implant supported dentures, types of basic prosthodontic replacement-crown, implant supported FPD and over dentures.
23. Fundamentals of esthetic dentistry
 - Definitions, importance of esthetics in prosthodontic replacements, fundamentals of smile design and esthetic dental materials.

PRACTICAL SYLLABUS

24. Complete denture teeth arrangement – 8 teeth arrangements.
 - Making of cast, acrylic denture base, (provisional-auto polymerizing acrylic), occlusal rims, teeth arrangement- anterior and posterior, wax up and carving.
 - Two dentures have to be processed of 8 arrangements.
25. Relining and rebasing of one of the processed dentures.
 - Cast from the processed denture, plaster occlusal index, articulation, trimming of denture base, wax up and carving, processing and finishing of rebased or relined denture.
26. Capsplint
 - Dentulous cast, articulation, wax pattern, fabrication.
27. Repair of complete denture of one of the processed dentures.
 - Cast from broken denture- by denture stabilization (supporting sticks, sticky wax), preparation of denture, wax up. Processing and finishing of repaired denture.
28. Removable partial denture
 - Class 1,2,3,4 of Kennedy classification – cast, denture base, occlusal rims, articulation, teeth arrangement, clasp for class 1 and class 2. Processing of partial dentures (any two types).

29. Cast partial denture designing.

- Stimulation of partially edentulous situations (casts), surveying, designing, wax pattern, and processing (casting) of one cast partial denture framework. (preferably tissue supported, class 1 or class 2).

30. Fixed partial denture

- Full veneer preparation on anterior and posterior typhodont teeth.
- Processing of anterior crown with acrylic and posterior crown in metal.

RECOMMENDED TEXT BOOKS

TEXT BOOK ON COMPLETE DENTURE

- BOUCHER
- HEARTWELL
- SHELDON WINKLER
- LAB PROCEDURES IN COMPLETE DENTURE- RUDD AND MARROW

REMOVABLE PARTIAL DENTURE

- STEWART
- MCCRAKEN'S REMOVABLE PARTIAL DENTURE.
- LAB PROCEDURES IN RPD – RUDD AND MARROW.

BDS 15206 PRE-CLINICAL CONSERVATIVE DENTISTRY & ENDODONTICS

THEORY

1. Introduction to Operative Dentistry
2. Glossary & Significance
3. Tooth designation & Tooth Numbering system followed
4. Cariology
5. Basic Principles in Cavity Preparation
6. Operative instruments and Equipments
7. Cavity preparation for Amalgam
8. Cavity preparation for Inlay
9. Tooth preparation for tooth-colored materials
10. Matrices and Wedges
11. Deep caries management
12. Introduction to Root Canal Treatment and Pulpotomy
13. Operator's position and Chair position for the patients
14. Basic aspects of sterilization of instruments and equipments
15. Basic aspects for management for various restorative materials-amalgam, Glass-ionomer, Composites
16. Infection Control

PRACTICALS

Exercise I: Class I preparations to receive Silver Amalgam

- One Upper Molar
- One Lower Molar
- One Lower Premolar
- One Lower Molar with with Buccal Extension

Exercise II: Class II Preparations for Silver Amalgam

- One Lower Molar(Mesio-Occlusal)
- One Lower Premolar(Disto Occlusal)
- One Upper Molar(Disto Occlusal)

Exercise III: Class III Preparations for tooth colored material

- One Upper Central Incisor(Palatal Approach)
- One Lower Central Incisor(Labial Approach)

Exercise IV: Class V Preparations

- One Upper Canine(Tooth Colored Material)
- One Lower Molar(Tooth Colored Material)

Exercise V: Inlay Preparation

- One Upper Molar(Mesio Occlusal)

Exercise VI: Excavation of Deep Caries and Indirect Pulp Capping

- One Lower Molar

Exercise VII: Access cavity preparation

- One Upper Central Incisor

Exercise VIII: Demonstration on fracture teeth

- One Natural Central Incisor(Restoration by Light Cure Composites)

Practicals 2 hour session

Theory Lecture 1 hour session

No of Hours :(as per DCI Regulations)

Theory : 40 hours

Practicals : 260 hours

Total : 300 hours

Recommended Text Books

1. Operative Dentistry : Ramya Raghu

Reference Text Books

1. Art and Science of Operative Dentistry : Sturdevant 5th edition
2. Operative Dentistry : Marzouk

BDS15301 ORAL PATHOLOGY AND MICROBIOLOGY

1. DEVELOPMENTAL DISTURBANCES OF ORAL AND PARAORAL STRUCTURES:

- a. Developmental disturbances of Jaws
- b. Developmental disturbances of lips and palate
- c. Developmental disturbances of oral mucosa
- d. Developmental disturbances of gingiva
- e. Developmental disturbances of tongue
- f. Developmental disturbances of oral lymphoid tissue
- g. Developmental disturbances of salivary glands
- h. Developmental disturbances in size of teeth
- i. Developmental disturbances in the shape of the teeth
- j. Developmental disturbances in the number of teeth
- k. Developmental disturbances in structure of teeth
- l. Developmental disturbances in eruption of teeth
- m. Developmental / Fissural cysts of the oral cavity

2. BENIGN AND MALIGNANT TUMORS OF THE ORAL CAVITY

- a. Benign tumors of epithelial tissue origin
- b. Premalignant lesions and conditions
- c. Malignant tumors of epithelial tissue origin
- d. Benign tumors of connective tissue origin
- e. Tumor like lesions of connective tissue origin
- f. Malignant tumors of connective tissue origin
- g. Benign tumors of muscle origin
- h. Benign and malignant tumors of nerve tissue origin
- i. Metastatic tumors of jaws and soft tissues of oral cavity

3. TUMORS OF SALIVARY GLANDS

- a. Benign tumors
- b. Malignant tumors
- c. Nonneoplastic enlargement of salivary glands

4. CYSTS AND TUMORS OF ODONTOGENIC ORIGIN

- a. Introduction and classification
- b. Odontogenic cysts
- c. Odontogenic tumors
 - 1. Ectodermal tumors
 - 2. Mesenchymal tumors
 - 3. Mixed tumors

5. REGRESSIVE ALTERATIONS OF TEETH

6. INFECTIONS OF THE ORAL CAVITY

- a. Bacterial
- b. Viral
- c. Fungal

7. DENTAL CARIES

8. DISEASES OF THE PULP AND PERIAPICAL TISSUES

- a. Diseases of the dental pulp
- b. Diseases of the periapical tissues
- c. Osteomyelitis

9. SPREAD OF ORAL INFECTION

10. PHYSICAL AND CHEMICAL INJURIES

- a. Physical injuries of teeth
- b. Physical injuries of bone
- c. Physical injuries of soft tissues
- d. Chemical injuries of oral cavity
- e. Effects of radiation of bone and oral mucosa

- 11. HEALING OF ORAL WOUNDS**
- 12. DISEASES OF BONE**
- 13. BLOOD DYSCRASIAS**
- 14. DISEASES OF PERIODONTOLOGY**
- 15. DISEASES OF SKIN**
- 16. NORMAL ORAL MICROBIAL FLORA**
- 17. DEFENCE MECHANISMS OF THE ORAL CAVITY**
- 18. FORENSIC ODONTOLOGY**
 - a. Record Management
 - b. Personal identification
 - c. Dental identification Procedures
 - d. Identification in disasters
 - e. Identification from dental DNA
 - f. Palatal Rugae in identification
 - g. Dental profiling
 - h. Tooth morphology and Sexing
 - i. Crime investigation
 - j. The dentist as expert witness

PRACTICALS:

- a. Identification of hard and soft tissue specimens
- b. Identification of microscopic slides of various oral lesions:
 - 1. Dental caries
 - 2. Plexiform ameloblastoma
 - 3. Follicular ameloblastoma
 - 4. Ameloblastic fibroma
 - 5. Odontome
 - 6. Odontogenic keratocyst
 - 7. Dentigerous cyst
 - 8. Warthin's tumor

9. Adenoid cystic carcinoma
10. Pleomorphic adenoma
11. Mucous extravasation cyst
12. Lichen planus
13. Pemphigus
14. Pemphigoid
15. Fibrous dysplasia
16. Paget's disease
17. Giant cell granuloma
18. Pulp polyp
19. Cavernous hemangioma
20. Capillary Hemangioma
21. Lipoma
22. Osteoma
23. Chondroma
24. Squamous cell carcinoma
25. Melanoma
26. Fordyce granules
27. Pulp stone
28. Hypercementosis
29. Leukoplakia
30. Acute pulpitis

REFERENCES:

1. Shafer's textbook of Oral Pathology-R.Rajendran & B.Sivapathasundaram-5th edition
2. Oral and maxillofacial pathology-Neville,Damn,Allen,Bouquot-2nd edition
3. Oral pathology and clinico pathologic correlation –Regezi & Sciubba-2nd edition
4. Colour atlas of Oral pathology-JohnEverson &Crispian Scully
5. Oral diseases in the tropics-S.R.Prabhu, Wilson, Duftary, Johnson-1st edition.

BDS 15302 GENERAL MEDICINE

1. Aims of Medicine
2. Definition of Signs & Symptoms – Diagnosis differential diagnosis
3. Treatment and Prognosis
4. Enteric fever
5. Aids
6. Viral Exanthemata – Measles, German measles, Herpes Zoster, Herpes simplex
7. Malaria
8. Infectious mononucleosis, mumps
9. Syphilis
10. Diphtheria
11. Stomatitis & Gingival hyperplasia
12. Dysphagia
13. Acid peptic disease
14. Jaundice
15. Acute & Chronic hepatitis
16. Cirrhosis of Liver
17. Ascites
18. Diarrhoea
19. Dysentery
20. Amoebiasis
21. Malabsorption
22. Acute Rheumatic fever
23. Rheumatic valvular heart disease
24. Hypertension
25. Ischemic heart disease
26. Infective endocarditis
27. Common Arrhythmias
28. Congenital heart disease
29. Congestive heart failure
30. Pneumonia
31. COPD
32. Pulmonary TB
33. Bronchial Asthma
34. Lung Abscess & Bronchiectasis
35. Pleural effusion, Pneumothorax
36. Lung cancer
37. Anaemias

38. Bleeding disorder
39. Clotting disorder
40. Leukemias
41. Lymphomas, splenomegaly, Generalised lymphadenopathy
42. Agraniulo cytosis
43. Oral manifestations of Haematological disorders
44. Acute nephritis
45. Renal failure
46. Nephrotic syndrome
47. Avitaminosis
48. Balanced diet & Protein energy malnutrition
49. Facial palsy & Examination of cranial nerve
50. Facial pain – Trigeminal neuralgia
51. Epilepsy
52. Headache including migraine
53. Meningitis
54. Examination of comatose patient
55. Diabetes
56. Hypothyroidism & Thyrotoxicosis
57. Calcium metabolism & Parathyroid
58. Addison's disease, Cushing's syndrome, Acromegaly
59. Syncope, Cardiac arrest – CPR shock
60. Acute LVF, ARDS

BDS 15303 GENERAL SURGERY

1. Introduction to Surgery & Basic Principles – Surgical Process-Surgical History – clinical examination & Investigation
2. Inflammation – Soft tissue
3. Inflammation – Hard tissues (Osteomyelitis) Acute, Chronic, Specific – TB
4. Fractures – General Principles, Pathology , Clinical features, Diagnosis, Treatment & Complications
5. Infections – General Consideration
6. Abscess – (acute and chronic) Cold Abscess
7. Cellulitis; Erysipelas
8. Ulcers – DD., investigation, Treatment of Non-Specific / Specific / malignant ulcers /
9. Carbuncle
10. Septicaemia, Toxaemia, Pyemia
11. Sinus, Fistula
12. Gangrene – Varieties of gangrene & management /
13. Gas gangrene
14. Cancrum oris
15. Tetanus
16. Tuberculosis of Lymph nodes / Bone & Joint
17. Leprosy
18. Actinomycosis, Madura mycosis
19. Anthrax
20. Syphilis, gonorrhoea, AIDS, other Venereal Diseases / Nosocomial Infection
21. Asepsis and Antiseptic measures – Sterilization
22. Wounds – Tissue repair, Classification – Acute & Chronic, Management
23. Shock, Syncope Collapse – Varieties of Shock & Management
24. Wound healing, Complications
25. Haemorrhage, Types of haemorrhage & Management
26. Blood Transfusion Indications – Precautions - Complications
27. Grafts Principles Types of Grafting – Grafting procedures
28. Tumours & Cysts – Benign & malignant

29. Burns
30. Sutures & Suturing
31. Head injury (Introduction)
32. CT Scan, Ultrasonogram, MRI
33. First AID
34. Diseases of Lymph Nodes – (cervical) Specific / nonspecific lymphadenitis / Lymphomas
35. Swellings neck – Midline & Lateral
36. Diseases of mouth – Stomatitis – Ulcers – cysts – Tumours
37. Diseases of Lips- Lesions of lips including tumours
38. Diseases of Tongue – Leukoplakia – Neoplasms
39. Diseases of Tonsils, Palate – Lesions of hard & soft Palate, Tonsil-enlargement / Quinsy / Retropharyngeal abscess / Tumours
40. Diseases of Salivary glands – Applied anatomy – Inflammation – Obstruction Neoplasms
41. Diseases of Larynx – FB – Oedema glottis – Laryngeal Paralysis – Tumours
42. Tracheostomy
43. Facial Nerve injuries, Bell's palsy
44. Trigeminal neuralgia
45. Diathermy
46. Radium Treatment – Principles
47. Facio – Maxillary injuries – Soft Tissues injuries / Fracture – facial bones & Jaws
48. Development of face – Cleft Lip and cleft palate
49. Diseases of Thyroid – Anatomy – Physiology – Classification – Goitre – Hyper & Hypothyroidism – Neoplasm
50. Parathyroids – Hyper parathyroidism & Hypoparathyroidism
51. Swellings of Jaw and Tumours Jaw
52. Accidental Injuries
53. Anaesthesia – General & regional
54. Basic Principles of Operative Surgery.

BDS FOURTH YEAR – SEMESTER I
BDS 15401 PUBLIC HEALTH DENTISTRY

Theory

1. BIO - STATISTICS:

Introduction and General Principal 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, enviommental health disposal of wastes, water, norms for potability, purification.

4. PREVENTIVE DENTISTRY:

Prevention, level 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 health programme, school dental health programme dental health services for 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.

BDS 15402 PERIODONTOLOGY

THEORY :	No. of HOURS
1. INTRODUCTION	1hr
Definitions of Periodontium, Periodontology, Brief historical background, Scope of Periodontics.	
2. DEVELOPMENT, ANATOMY, MICRO STRUCTURE & BIOLOGY OF PERIODONTIUM:	
2.1 Gingiva	2hrs
2.2 Periodontal ligament	1hr
2.3 Cementum	1hr
2.4 Alveolar bone	1hr
3. AGE CHANGES IN PERIODONTIUM	
3.1 Age changes in teeth and periodontal structures	
3.2 Gingival disease in childhood and adolescents	1hr
4. CLASSIFICATION OF DISEASES & CONDITIONS AFFECTING PERIODONTIUM:	1hr
Need of classification, scientific base of classification, Classification of gingival and periodontal diseases as described in world workshop 1999, other classifications of periodontal diseases.	
5. EPIDEMIOLOGY OF PERIODONTAL DISEASES:	2hr
Definition of Index, Incidence, Prevalence, Endemic, Epidemic, Pandemic, Epidemiology, Classification of indices (Irreversible, Reversible) Deficiencies of earlier indices used in periodontics, Detailed Understanding of Silness & Loe plaque index, Loe & Silness gingival index, CPITN , CPI, PSR, OHI, SBI, etc. Prevalence of periodontal diseases in India and other countries, Public health significance.	
(All these topics are covered at length under community dentistry may be discussed briefly. However, questions may be asked from the above topics in examination)	

6. ETIOLOGY OF PERIODONTAL DISEASES

- 6.1 Dental Plaque (Bio-Film) 3hrs
 Definition of plaque, material alba, food debris, Structure, Classification, Composition, Formation, Bacterial colonization, Growth, Maturation , Periodontal pathogens, Bacterial complexes, Virulence, Microbial specificity, Role in periodontal diseases, microbial interactions with the host in brief.
- 6.2 The Role of Dental Calculus & Other Predisposing Factors: 2hr
- 6.2.1 Calculus Definition, Classification, Composition, Theories of formation, Role in periodontal disease, Plaque retentive factors,
- 6.1.2 Food impaction, Definition, Types, Etiology, Hirschfelds classification Signs and symptoms, Management
- 6.2.3 Habits: Bruxism, Tongue thrusting, Mouth breathing, Lip Biting, Other occupational habits (Periodontal significance of the above)
- 6.2.4 Iatrogenic Factors: Over hanging restorations, improperly contoured marginal ridges, Contact points, Roughness of crowns and dentures, Ill-fitting Dentures, Plaque Retention on removable and fixed appliances, Improperly designed Bridges and prosthesis, improper orthodontic treatment.
- 6.3 Host Response in Periodontal Disease: Mechanism of initiation and progression, periodontal disease activity, Continuous disease activity, Multiple burst hypothesis. 2hr
- 6.4 Immunity, Inflammation: Basic concepts, Cellular elements involved, immunoglobulins, complement, immune mechanism & cytokines in brief. 1 hr
- 6.5 Risk factors 1 hr
- 6.5.1 Definitions of risk factors, risk determinants, risk indicators, risk markers examples of each, clinical risk assessment, significance
- 6.5.2 Smoking and periodontal disease: classification of smokers, Effect on disease prevalence, etio pathogenesis, therapy
- 6.5.3 Genetic factors associated with periodontal disease in brief. 1hr
- 6.6 Host modulation: Host response, host modulation factors, host modulation therapy. 1hr

7. RELATIONSHIP BETWEEN PERIODONTAL DISEASE AND SYSTEMIC HEALTH

- 7.1 Influence of systemic disorders and stress on periodontium: endocrine disorders, hormonal changes, hematologic disorders immune deficiencies, stress & psychosomatic disorders, nutritional influences, other systemic conditions. 1hr

- 7.2 Periodontal medicine: Impact of periodontal infection on systemic health, Cardiovascular diseases, Stroke, Diabetes mellitus, Pregnancy outcome, COPD, etc 1hr
- 7.3 Oral malodor: Etiology, Diagnosis, Treatment 1hr

8. GINGIVAL DISEASES

- 8.1 Defense Mechanisms Of Gingiva & Other Oral Structures: Epithelium, Gingival crevicular fluid, Saliva 1hr
- 8.2 Gingival inflammation: Stages of gingivitis 1hr
- 8.3 Plaque associated gingivitis: Etiology, Pathogenesis, Clinical signs and symptoms, Management 1hr
- 8.4 Gingivitis due to systemic factors, Sex hormones, Drugs, and systemic conditions 1hr
- 8.5 Necrotizing ulcerative gingivitis 1hr
- 8.6 Desquamative gingivitis: Lichen planus, Pemphigoid, Pphemphigus, Other Vesiculo bullous lesions, Allergic gingivitis 1hr
- 8.7 Infective gingivitis: Herpetic, Bacterial, Candidal, Pericoronitis 1hr
- 8.8 Gingival enlargement: Definition, Classification, Differential diagnosis. 1hr

9. PERIODONTAL DISEASES

- 9.1 Extension Of Inflammation From Gingiva: Mechanism of spread of inflammation from gingiva to deeper structures, Factors that modify the spread
- 9.2 Periodontal Pocket: Definition, Classification, Signs and symptoms, Pathogenesis, Histopathology, Root changes, contents of the pocket. 1hr
- 9.3 Periodontal Abscess: Etiology, clinical features, differential diagnosis, treatment. 1hr
- 9.4 Bone loss and patterns of bone destruction 1hr
- 9.5 Periodontal response to external forces: 2hr
- 9.5.1 Trauma from occlusion: Definition, Classification, Radiological changes, Histological Changes, Role in periodontal disease
- 9.5.2 Traumatic Occlusion: Definition, Identification, Changes in periodontium, Correction of pre maturities (Coronoplasty in brief), bruxism-clinical signs, symptoms, treatment
- 9.6 Chronic periodontitis: Definition, classification, etiology, risk factors, clinical features, prognosis and treatment 1hr

- 9.7 Aggressive Periodontitis: Historical perspective, classification, etiology, risk factors, clinical features, prognosis and treatment 1hr
- 9.8 Necrotizing ulcerative periodontitis 1hr
- 9.9 Pathology and management of periodontal problems with HIV infection 1hr

10. TREATMENT OF PERIODONTAL DISEASE

- 10.1 Clinical Diagnosis: Definition, significance of taking history, first visit, second visit, clinical examination of soft tissues, hard tissues, periodontal examination in detail. 2hrs
- 10.2 Radiographic aids in the diagnosis of periodontal disease:
- 10.3 Advanced diagnostic aids 2hr
- 10.4 Prognosis: Definition, Classification, Individual Tooth, Overall Prognosis, Determination of Prognosis 1hr
- 10.5 The treatment plan: rationale for periodontal treatment, Phase I , II, III, IV 1hr
- 10.6 Periodontal treatment of medically compromised patients 2hr
- 10.7 Periodontal therapy in female patient 1hr

11. NONSURGICAL THERAPY

- 11.1 Phase I periodontal therapy: 1hr
- 11.2 Plaque control: patient education, motivation, plaque identification (Disclosing agents), mechanical plaque control, Chemical plaque control, Supra & Sub gingival Irrigation etc. 2hrs
- 11.3 Scaling and root planning: 3hrs
Sonic & ultrasonic scaling
- 11.4 Splinting 1hr
- 11.5 Dentinal hypersensitivity: 1hr
- 11.6 Chemotherapeutic Agents for Periodontal Therapy: Antibiotics, Anti-inflammatory drugs, Analgesics, Local drug delivery. Host modulation agents. 1hr
- 11.7 Supportive periodontal therapy 1 hr

12. SURGICAL THERAPY

12.1 surgical anatomy, General principles of periodontal surgery	1hr
12.2Gingival surgical techniques:	2hrs
Gingival Curettage, Gingivectomy, treatment of various gingival enlargements, Crown lengthening in brief	
12.3periodontal flap & flap techniques:	3hrs
12.4Resective osseous surgery	1hr
12.5Reconstructive periodontal surgery	2hrs
12.6Furcation: Involvement and treatment	1hr
12.7Periodontal plastic and esthetic surgery	2hrs
12.8Advances in surgical technology	1hr
12.9Implants:	3hrs

13. INTER DISCIPLINARY PROCEDURES

13.1 Periodontal restorative interrelationships	
13.2 Adjunctive role of orthodontic therapy	3hrs
13.3 Periodontic-Endodontic continuum	

14. ETHICS AND PERIODONTOLOGY

1 hr

15. CLINICALS:

Infection control, Periodontal instruments identification, Chair position and principles of instrumentation, Sharpening of instruments, case sheet discussion, examination of periodontium in detail, Diagnosis of periodontal disease and determination of prognosis, Radiographic interpretation and lab investigations, Motivation of patients, plaque control instruction to patients

Shall be given demonstration Manual supra, sub gingival scaling, root planning, Ultrasonic piezo electric and sonic scaling and polishing demonstration of periodontal surgical procedures .

NO. OF HOURS (III & IV YR B.D.S):

Lectures: 80 hrs

Clinicals : 170 hrs

Total : 250 hrs

RECOMMENDED TEXT BOOKS:

1. Clinical periodontology by Newman, Carranza and Takei
2. Text book of periodontics, by Eley and Manson
3. Periodontics: Medicine, Surgery and Implants by L.F.Rose, B.L.Mealey, Cohen and Genco.

REFERENCE TEXT BOOKS:

1. Clinical periodontology and Implant dentistry by Lindhe
2. Fundamentals of periodontics by Kornman &Wilson
3. Fundamentals of Periodontal Instrumentation and advanced root instrumentation- Jill S. Nield-Gehrig
4. Scaling and root planing by Kornman
5. Oral microbiology and immunology by Newman and Nissengard
6. Text book of immunology by Ivan and Riott
7. Clinical practice of the dental hygienist by Wilkins

BDS 15403 ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

THEORY

1. Definition, aims, objectives and scope of orthodontics
2. Growth and development of jaws, teeth, face and skull, establishment of normal occlusion.
3. Normal occlusion and its characteristics, factors responsible for its establishment and maintenance.
4. Genetics as applied to orthodontics.
5. Malocclusion and its classification.
6. Etiology of malocclusion.
7. Case history taking, clinical examination and case analysis.
8. Diagnostic aids including cephalometrics.
9. Treatment planning of various malocclusions
10. Preventive and interceptive orthodontics :
 - a. Habit breaking appliance
 - b. Space maintainers
 - c. Serial Extraction
11. Methods of gaining space.
12. Corrective Orthodontics:
 - a. Removable appliances
 - b. Mechanical and functional
 - c. Outline of fixed appliances
13. Tissue reaction to orthodontic treatment.
14. Materials in orthodontics.
15. Retention and Relapse
16. Computers in orthodontics
17. Surgical Orthodontics

PRECLINICAL EXERCISES

I. BASIC WIRE BENDING EXERCISES

1. Straightening of Wire 3" -3 nos
2. Square 1" - 1no.
3. Rectangle 1"X 2" - 1no.
4. Triangle 1" - 1no.
5. 1 U-V Loop
6. 3/4 Clasps - R & L 2 sets

7. Jackson's Crib - R & L 2 sets
8. Triangular clasp- R & L 2 sets
9. Adam's clasp- R & L- 3 sets.
10. Short labial bow – 3 nos
11. Long labial bow – 1 no.
12. Split labial bow – 1 no.
13. Robert's retractor – 1 no.
14. Finger spring – 1 set.
15. Single cantilever spring- with/ without guide
16. Double cantilever spring- with/ without guide
17. U loop canine retractor 2 sets
18. Helical canine retractor 2 sets
19. Buccal canine retractor 1 set
20. Palatal canine retractor 1 set
21. Reverse loop canine retractor
22. Coffin spring 1 no.
23. Hawley's appliance
24. Hawley's appliance with ABP
25. Appliance with single cantilever spring and PBP
26. Appliance with buccal canine retractor
27. Appliance for diastema closure
28. Twin Block Appliance

II. Case sheets – presentation and submission

III. Appliances in dummy models

IV. Clinical cases- Fabrication and delivery

V. Cephalometric tracing – basic tracing and landmark identification

Student activities

1. Preparation of study models and basics of model analysis
2. Seminars- presentation and submission
3. Posters – Presentation and submission

Textbooks

1. T.M. Graber Principles and techniques of orthodontics
2. Proffit : Contemporary Orthodontics

References

1. White & Gardiner : Orthodontics for dental students
2. C.P. Adams : Removable Orthodontic Appliances
3. Rakosi : Orthodontic Diagnosis

BDS 15404 ORAL MEDICINE AND RADIOLOGY

RADIOLOGY:

1. Radiation physics
2. Radiation biology
3. Health physics
4. X-ray film, Intensifying screen, Grid
5. Projection geometry
6. Test and Discussion
7. Processing of X-ray films
8. Normal radiographic anatomy
9. Radiographic quality assurance and infection control
10. Extra oral radiographic examination
11. Panoramic imaging
12. Digital imaging
13. Specialised radiographic techniques
14. Inflammatory lesion of jaws
15. Cyst and tumours of jaws
16. Salivary gland radiology
17. Trauma to teeth and facial structures
18. Oral implants-
19. Imaging of TMJ disorders

ORAL MEDICINE:

1. Introduction to oral medicine and oral diagnosis
2. Pharmacology
3. Ulcerative and vesiculo bullous lesions
4. Red and white lesion of oral mucosa
5. Pigmented lesion of oral cavity
6. Benign lesion of oral cavity
7. Salivary disorders
8. Test and discussions

9. Orofacial pain
10. Temporomandibular disorders
11. Diseases of Respiratory system
12. Diseases of Cardiovascular system
13. Diseases of GIT system
14. Diseases of renal system
15. Hematologic disorder
16. Bleeding and clotting disorder
17. Immunologic diseases
18. Transplantation medicine
19. Infectious diseases
20. Diabetes mellitus
21. Neuro muscular diseases
22. Genetics
23. Differential diagnosis and laboratory investigation-6hrs.
24. Tests and discussions-6hrs.
25. Forensic odontology-2 hrs.

Recommended Books.

A) ORAL MEDICINE:

1. Burkit- Oral medicine.
2. Coleman- Principles of oral diagnosis-mosby year book.
3. Jones- Oral manifestations of systemic diseases-W.B.Saunders company.
4. Mitchell-Oral diagnosis& Oral medicine.
5. Kerr- Oral diagnosis.
6. Miller- Oral diagnosis and treatment.
7. Hutchinson-Clinical methods.
8. Oral Pathology-Shafers.
9. Sonic.S.T, Fazio.R.C and Fang.L-Principles and practice of oral medicine.

B) ORAL RADIOLOGY:

1. White and Goaz-Oral radiology-Mosby year book.
2. Weahrman-Dental Radiology_C.V.Mosby Company.
3. Stafne-oral roentgenographic diagnosis-W.B.Saundeurs co.

C) FORENSIC ODONTOLOGY:

1. Derek H Clark- Practical Forensic Odontology-Butterworth-hienemenn(1992).
2. C.Michael Bowers, Gary bell- Manual of forensic odontology- Forensic(1995)

**FOURTH YEAR BDS – II -SEMESTER
BDS15405 ORAL AND MAXILLOFACIAL SURGERY**

1. Basic principles of Oral Surgery

- a) Developing a surgical diagnosis
- b) Basic necessities for surgery
- c) Aseptic technique
- d) Incisions
- e) Flap design
- f) Tissue handling
- g) Hemostasis
- h) Decontamination and debridement
- i) Edema control
- j) Patient general health and nutrition

2. Exodontia

- a) Indications, contraindications of extraction
- b) Principles of extraction
- c) Types of extraction
- d) Instruments used for extraction
- e) Steps in extraction
- f) Complications of extraction

1. Complicated exodontias

- a) Principles of flap design, development and management
- b) Principles and techniques for surgical extraction
- c) Multiple extraction

2. Impacted teeth

- a) Indications for removal of impacted teeth
- b) Contraindications for removal of impacted teeth
- c) Classification systems of impacted teeth

- d) Root morphology
- e) Modification of classification systems for maxillary impacted teeth
- f) Difficulty of removal of other impacted teeth
- g) Surgical procedure
- h) Peri operative patient management

3. Preprosthetic surgery

- a) Objectives of preprosthetic surgery
- b) Principles of patient evaluation and treatment planning
- c) Recontouring of the alveolar ridges
- d) Tori removal
- e) Soft tissue abnormalities
- f) Immediate dentures
- g) Overdenture surgery
- h) Mandibular augmentation
- i) Maxillary augmentation
- j) Soft tissue surgery for ridge extension of mandible
- k) Soft tissue surgery for ridge extension of maxilla
- l) Correction of abnormal ridge relationships

4. Cysts of the oral cavity

- a) General considerations
- b) Classification
- c) Diagnosis
- d) Management
- e) Operative procedures
- f) Clinical variations

5. Osteomyelitis

6. Odontogenic infections of head and neck

- a) Microbiology of odontogenic infections
- b) Principles of therapy of odontogenic infections
- c) Principles of prevention of infection
- d) Principles of prophylaxis of wound infection
Principles of prophylaxis against metastatic infection

7. Diseases of maxillary sinus

- a) Embryology and anatomy
- b) Clinical examination of maxillary sinus
- c) Radiographic examination of maxillary sinus
- d) Odontogenic infections of maxillary sinus
- e) Treatment of maxillary sinusitis
- f) Complications of surgery involving maxillary sinus
- g) Mucous retention phenomenon
- h) Oroantral communications

8. General anesthesia

9. Hemorrhage and shock

10. Essentials of lab investigations

11. Analgesics and antibiotics

12. Diseases of TMJ

- a) Evaluation
- b) Classifications of Temporomandibular disorders
- c) Reversible treatment
- d) Permanent occlusion modification
- e) Temporomandibular joint surgery

13. Injuries of maxillofacial region

- a) Basic principles for the management of maxillofacial injuries
- b) Management of mandible fractures, middle third fractures, zygoma fractures and its complications

14. Salivary gland disorders

- a) Embryology, anatomy and physiology
- b) Diagnostic modalities
- c) Obstructive salivary gland diseases
- d) Mucous retention and extravasation phenomena
- e) Salivary gland infections
- f) Necrotising sialometaplasia
- g) Sjogren's syndrome
- h) Traumatic salivary gland injuries
- i) Neoplastic salivary gland disorders

15. Tumors of oral cavity

- a) Principles of surgical management of jaw tumors
- b) Malignant tumor of the oral cavity
- c) Surgical management of benign lesions in oral soft tissues
- d) Reconstruction of jaws after removal of oral tumors

16. Cleft lip and palate

- a) Embryology
- b) Causative factors
- c) Problems of the cleft afflicted individual
- d) Treatment of cleft lip and palate
- e) Dental needs of cleft afflicted individuals

17. Implants in dentistry

- a) Biologic considerations for osseointegration
- b) Clinical implant components
- c) Implant prosthetic options
- d) Preoperative medical evaluation of implant patient
- e) Basic surgical techniques
- f) Complications

18. Emergencies in dental practice

19. Distraction osteogenesis

20. Transplantation of tissues

21. Orthognathic surgery

- a) Introduction, diagnosis and treatment planning
- b) Presurgical orthodontic phase
- c) Osteotomy procedures

22. Neurological disorders of maxillofacial region

(3 HRS)

- a) Basics of pain neurophysiology
- b) Classifications of orofacial pain
- c) Neuropathic facial pains
- d) Chronic headache
- e) Trigeminal neuralgia and its management
- f) Other chronic head pains of dental interest
- g) Evaluation of the orofacial pain patient

23. Cryosurgery

24. Lasers

25. Premalignant lesions

LOCAL ANESTHESIA

- A. Introduction to L.A and history of L.A
- B. Neurophysiology
 - 1. Definition of L.A
 - 2. Ideal properties of L.A
 - 3. Basics of neuron
 - 4. Theories of L.A
 - 5. Mechanism of action of L.A
 - 6. Dissociation of L.A
 - 7. Reason for L.A not working in infected areas
 - 8. Factors affecting L.A
- C. Pharmacology of L.A
 - 1. Pharmacokinetics of L.A
(Uptake, distribution, metabolism, excretion)
 - 2. Pharmacodynamics of L.A
(Effect of L.A on CVS and CNS)
 - 3. Classification of L.A
 - 4. Composition of L.A
 - 5. Contraindications for L.A
 - 6. Maximum recommended dose for L.A
 - 7. Topical anesthetic agents
- D. Pharmacology of vasoconstrictor
 - 1. Reasons for adding vasoconstrictor with L.A
 - 2. Classification of vasoconstrictor
 - 3. Various vasoconstrictors used
 - 4. Systemic action of adrenaline

5. Clinical uses of adrenalin
6. MRD for adrenaline
7. Overdose of adrenaline
8. Dilution of adrenaline
9. Factors affecting the selection of vasoconstrictors

E. The Armamentarium

1. The syringe
2. The needle

(Parts of needle, diameter and length of needle, care and handling of needle, problems with needle usage)

F. Maxillary anesthetic techniques

1. Anatomy of maxillary nerve and maxilla
2. Definition of local infiltration, field block, nerve block
3. Supraperiosteal infiltration
4. Posterior superior alveolar nerve block
5. Middle superior alveolar nerve block
6. Anterior superior alveolar nerve block
7. Greater palatine nerve block
8. Nasopalatine nerve block
9. Maxillary nerve block

G. Mandibular anesthetic techniques

1. Anatomy of maxillary nerve and maxilla
2. Fischer 1, 2, 3 nerve block
3. Direct inferior alveolar nerve block
4. Akinosi technique
5. Gow- gates technique

- H. Supplemental injection techniques
 - 1. Periodontal ligament injection
 - 2. Intraseptal injection
 - 3. Intraosseous injection
 - 4. Intrapulpal injection
- I. Local complications
 - 1. Needle breakage
 - 2. Trismus
 - 3. Hematoma
 - 4. Facial nerve paralysis
 - 5. Pain on injection
 - 6. Burning on injection
 - 7. Edema
 - 8. Soft tissue injury
- J. Systemic complications
 - 1. Overdose
(Definition, causes, predisposing factors, clinical features, Management)
 - 2. Allergy
(Etiology, clinical features, management)
- II. MISCELLANEOUS
 - a. Suturing materials and techniques
 - b. Sterilization
 - c. Antibiotics and analgesics
 - d. Instruments in minor oral surgery
 - e. Surgical anatomy (TMJ, Salivary gland, Maxillary sinus, V and VII nerves) and Osteology (maxilla, mandible)
 - f. Wiring techniques

PROPOSED TEXT BOOKS FOR LOCAL ANESTHESIA

1. Local anesthesia by Stanley F. Malamed
2. General anesthesia by Monheims
3. Contemporary Oral and Maxillofacial surgery by L.J .Peterson

TEXT BOOKS:

1. Local anesthesia - Malamed
2. Oral and Maxillofacial surgery - Kruger Contemporary Peterson
3. Surgical anatomy & Osteology - Dubrul & Sicher Last

REFERENCES:

1. Local anesthesia – Monheims
Sowray
2. Oral and Maxillofacial surgery –
Laskin Vol. 1 and 2
Jeffrey Howe
Neelima Malik
Killey & Kay (all volumes)
Pharmacology - Tripathi

BDS 15406 CONSERVATIVE DENTISTRY AND ENDODONTICS

THEORY

Conservative Dentistry:

1. Definition and scope
2. Clinical significance of Dental anatomy, Histology, Physiology and occlusion
3. Examination, Diagnosis and treatment planning
4. Cariology and prevention of caries
5. Infection Control
6. Fundamentals in cavity preparation
7. Biomechanics in Operative Dentistry
8. Operative instruments and Equipments
9. Isolation
10. Amalgam and Mercury Hygiene Management
11. Class I and Class II cavity preparations for amalgam restorations
12. Contacts & Contours
13. Matrices & Wedges
14. Gingival Tissue management
15. Pin-retained amalgam
16. Cast gold alloys
17. Casting procedures
18. Inlay and Onlay
19. Inlay wax
20. Direct Gold Restorations
21. Management of Hypersensitivity
22. Non-Carious lesions and their management
23. Dental cements
24. Esthetic Dentistry
 - a. Composites
 - b. Ceramics
 - c. Bleaching
 - d. Veneers
 - e. Cavity Preparation for tooth colored materials
25. Fundamental concept of Adhesion and Dentin Bonding agents

Endodontics:

1. Introduction and scope
2. Dental Pulp & its pathological diseases
3. Periradicular tissues & its pathology

4. Diagnostic aids in Endodontics
5. Rationale of endodontic treatment
6. Anatomy of Pulp Cavity and access cavity preparation
7. Working Length determination
8. Cleaning and Shaping of root canal
9. Endodontic instruments
10. Sterilization and Disinfection
11. Irrigants
12. Intra-canal medicaments
13. Microbiology
14. Root Canal Sealers
15. Obturating materials and techniques
16. Discoloration and its management
17. Traumatic Injuries
18. Endodontic emergencies and pain control
19. Endodontic Surgery
20. Procedural errors in Endodontics and retreatment
21. Endo-Perio lesions
22. Replantation, Transplantation and Endodontic Implants
23. Single Visit Endodontics
24. Resorption
25. Post-Endodontic Restorations
26. Pulpotomy & Apexification

Recommended Text Books

Conservative Dentistry:

1. Art and Science of Conservative Dentistry- Sturdevant

Endodontics:

1. Endodontic Practice- Grossman
2. Endodontics- Ingle

Reference Text Books

Conservative Dentistry:

1. Text book of Operative Dentistry- Vimal K Sikri
2. operative Dentistry -Ramya Raghu
3. Operative Dentistry-Marzouk

Endodontics:

1. Pathways of the Pulp-Cohen

BDS 15407 PROSTHODONTICS AND CROWN AND BRIDGE

THEORY

COMPLETE DENTURE

1. Introduction and scope
2. Applied anatomy
3. Biomechanics of edentulous state
4. Effects of aging on the edentulous state
5. TMJ disorders in edentulous patients
6. Examination diagnosis, treatment planning and prognosis
7. Pre-prosthetic surgery
8. Principles of retention and stability and support
9. Principles and techniques of impression making
10. Preparation of casts ,trays and temporary denture bases occlusal rims
11. Jaw relations and methods of registration Mandibular movements
12. Artificial teeth ,their selection and arrangements and esthetics
13. Articulators and face bow
14. Occlusion and articulation in complete dentures
15. Processing and finishing of denture.
16. Correction of occlusal discrepancies.
17. Insertion and adjustments and complaints and aftercare of complete denture.
18. Nutrition care for the denture – wearing pt.
19. Sequelae of ill-fitting dentures
20. Repair, rebasing and relining.
21. Immediate denture.
22. Implant Prosthodontia.
23. Over denture.

24. Single complete denture.
25. Geriatric dentistry.

Removable partial dentures

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

Crown and bridge Prosthodontics

1. Introduction and Definition.
2. Indication and contra-indication for FPD.
3. Examination, diagnosis and treatment planning. Difference between RPD & FPD.
4. Mouth preparation for FPD.
5. Selection and choice of abutment teeth.
6. Principles of tooth preparation.

7. Procedures of preparation of abutment teeth abutment teeth for receiving various types of retainers.
8. Gingival retractions and impression procedure
9. Temporary protection of prepared tooth.
10. Contraction of dies and working casts
11. Technique of fabrication of retainers
12. Selection and fabrication of pontics.
13. Connectors, stress breakers and assembly of Fixed bridges
14. Finishing
15. Cementation
16. Maintenance of crowns and bridges
17. Bridge failure management
18. Materials in FPD and recent advancements in Ceramics

Maxillo facial prosthetics

1. Splints
2. Obturator
3. Carriers
4. Extra oral and Intra oral Prosthetics
5. Implants in maxillo facial prosthesis
6. Materials for Maxillo facial prosthesis
7. Etiology and type

Implant Prosthodontics

1. Introduction to Implantology

2. History and evolution
3. Diagnosis and treatment planning
4. Fundamental science and osseointegration
5. Implant Prosthodontics and maintenance

Esthetic dentistry

1. Principles of esthetics
2. Dentin bonding agents
3. Color modifiers and opaquers
4. Composite resins
5. Porcelain fused to metal restorations
6. All ceramic restorations
7. Laminates
8. Bleaching
9. Dynesthetic concept of smile

Student's activities

1. Monthly class cycle tests
2. Internal exam
3. Clinical and Pre clinical tests
4. Viva voce
5. Seminars
6. Group discussions
7. Scientific paper presentations in National/ International Level
8. CDE programs
9. Project works
10. Hands on course and work shops

Recommended Text Books

1. Contemporary fixed Prosthodontics / Stephen F. Rosenstiel, Morten F. Land, Junjei Fujimoto. Ed .3rd
2. Fundamentals of tooth preparations for cast metal and porcelain restorations / Hebert T. Shillingburg, Richard Jacobi, Susan E. Brackett. Ed
3. Tylmon theory and practice of fixed Prosthodontics F.P. Malone .David .I.koth, Ed.8th
4. Essential of Complete denture Prosthodontics / Sheldon Winkler Ed .2nd
5. Clinical removable partial Prosthodontics; Stewart.
6. Complete denture and implant supported Prosthodontics; Boucher"s Zarb.

Reference Text Books

1. Fundamentals of fixed Prosthodontics / Herbert T.Shillingburg (et al) Ed 3rd
2. Syllabus of complete denture / Charles M Heartwell. Ed5
3. Planning and making crowns and bridges / B.G.N. Smith 4ed
4. Removable partial Prosthodontics – McGregor
5. Science of dental material- Anusavice
6. Removable partial Prosthodontic – Osborne and Lammie
7. Problem and solutions in complete denture Prosthodontics / David lamb

BDS15408 PAEDIATRIC AND PREVENTIVE DENTISTRY

THEORY

1. Introduction, Definition, Scope & Importance Of Pedodontics
2. General notes on Primary Teeth.
3. Examination, Diagnosis & Treatment Planning.
4. Morphology of Dentition & its Application
 - a) Applied morphology of primary & secondary teeth.
 - b) Importance of permanent molar.
 - c) Eruption & teething Disorders.
 - d) Young permanent teeth
5. Radiographic Techniques
6. Child Psychology & Management.
7. Management of Disabled/ Handicapped child
8. Child Abuse & Neglect.
9. Fundamentals of Dental Health - Oral Hygiene.
10. Gingival Diseases.
11. Periodontal Diseases.
12. Space Maintainers & Regainers.
13. Orthodontic management of mixed dentition
 - a) Habits
 - b) Habits & Minor regularities
 - c) Serial Extraction.
14. Development of normal occlusion.
15. Cleft lip & Cleft palate.
16. Dental Caries

17. Prevention of Dental Caries.
 - a) Diet b) Fluorides.
18. Isolation Techniques.
19. Restorative dentistry in children.
20. Pit & Fissure Sealants.
21. Management of fractures in anterior teeth & Endodontic treatments.
22. Semi-Permanent Restorations.
23. Prosthodontic management.
24. Principles of Extraction.
25. Local Anaesthesia.
26. Fluorides.

STUDENTS ACTIVITIES:

Seminars, Viva, & Clinical Case Discussion.

RECOMMENDED TEXT BOOKS:

Mcdonald, Finn, Shoba TandonN(new edition), Pediatric dentistry-Muthu,
Arathirao(new ed.), Damle

REFERENCE TEXT BOOKS.

Braham of Morris, Satish chandra, Mathewson, Stewart.