



SunRise University

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SRU COLLEGE OF PARAMEDICAL TECHNOLOGY
SunRise University Campus, Alwar, Rajasthan, India

Syllabus

II & III Year

Diploma in Dental Hygiene Technology

I & II Year for Lateral Entry DDHT / II DDHT)

SECTION-A

General Anatomy & Histology

30 Hrs

Syllabus for Dental Anatomy & Histology

- I. Development of tooth and histology of enamel, dentine, pulp & periodontal tissues
- II. Dental anomalies
- III. Dental nomenclature
- IV. Attrition, Abrasion & Erosion
- V. Sterilisation & Infection control
- VI. Oral Manifestations of systemic diseases
- VII. Brief description of Pathology and Bacteriology of dental caries, gingival and periodontal infection

1. Introduction to Anatomy:

a. Definition of Anatomy

b. Anatomical position

- Supine, prone, lithotomy □ positions

c. Different parts of human body:

- Head and neck, Thorax and abdomen, pelvis and perineum, upper and lower limbs.

d. Anatomical planes and sections: Median, sagittal, coronal, transverse, longitudinal, horizontal, oblique.

e. Anatomical terms:

Anterior, posterior, superior, inferior, medial, lateral, proximal, distal, superficial, deep, ventral, dorsal, cephalic, caudal, interior, exterior, invagination, evagination, ipsilateral, contralateral.

f. Terms for describing muscles:

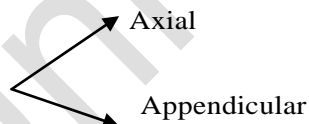
Origin, insertion, Belly, tendon, aponeurosis, raphe.

g. Anatomical movements:

Flexion, extension, adduction, abduction, Medial rotation, lateral rotation, circumduction, pronation, supination, protraction, retraction, elevation, depression.

2. Basic tissues: Definitions of

Epithelium, connective tissue (including cartilage and bone), muscle, nerve.



3. Bones of skull Mandible, maxilla, temporal bone major features to be identified.
4. Muscles of facial expression.
 - names, location in the living body, actions and their importance clinically.
5. Muscles of mastication
 - Brief study of attachments, location in the living, actions and clinical importance in relation to dental mechanics.
6. Blood supply, nerve supply and lymphatic drainage of face, teeth and oral cavity.
7. Course and distribution of 5th, 7th, 9th and 10th cranial nerves.
8. Endocrine system – Hypothalamus, Pituitary, thyroid, parathyroid, adrenal and Pancreas Identification and functional correlation.
9. Tongue: Anatomy, muscles, nerve supply to tongue.

As with all other courses, models, charts, photographs, prosected specimens, 2D/3D animation can be used for theory teaching and practical demonstrations.

Practicals

20 Hrs

Gross anatomy including surface anatomy only.

The students should maintain practical records and submit the same to the HOD of Anatomy for scrutiny.

- Basic tissues to be demonstrated for identification.
- Identification of parts of skull as a whole.
- Mandible, maxilla and temporal bones to be demonstrated and studied with their features understood in articulated skull and 3D animation.
- Muscles of facial expression and muscles of mastication are to be demonstrated and studied in models or cadaver or mannequins. Actions of the muscles may be understood by 3D animation.
- Models, charts, photographs, 2D/3D animation etc. may be used instead of prosected cadaveric specimens (which may not be available in every institute), to demonstrate and study No. 7, 8, 9, 10 of theory syllabus.

SECTION-B

GENERAL PHYSIOLOGY

30 Hrs

Introduction:- (Duration of Teaching 3 Hours)

Physiology - Homeostasis

Cell:-

Structure Of A Cell, Intracellular Organelles, Cell Junctions, Stem Cells, Cell Aging & Death

Transport through cell membranes:- Mechanisms Of

Transport Across Cell Membrane

Body Fluids:-
Compartments Of Body Fluid, And Measurement Of Body Fluids.

BLOOD (- 7 Hrs)

Composition & Functions Of Blood

Plasma:-
Composition And Functions Of Plasma Proteins

Cellular Components Of Blood:-

(RBC, WBC, PLATELETS) Morphology, Physiological Values, Functions, Formation Of Hemopoietic

Cells, Life Span & Applied Aspects

Hemoglobin:-

Formation, Functions, Physiological Values, Destruction Of RBC, Applied Aspects

ESR, PCV, Blood Indices & Anemia

Blood
Groups:-

ABO Blood Grouping, Rh Typing, Landsteiner's Law, Cross Matching, Storage Of Blood, Indications And
Contraindications Of Blood Transfusion.

Hemostasis:-

Clotting Factors, Anticoagulants, Applied Aspects

GASTROINTESTINAL PHYSIOLOGY (- 4 Hrs)

Structural Overview of Gastrointestinal Tract

Movements of GIT AND PERISTALSIS

Salivary Glands- Its Secretions, Composition, Functions And Regulation Of Salivary Secretions

Applied Aspects In oral cavity (Salivary secretion).

NERVE PHYSIOLOGY(- 3 Hrs)

Nerve : Structure, Types Of Neuroglial Cells, Functions Of Nerves

Receptors : Definition, Types Of Sensory Receptors.

Reflex : Arc, Action & Reflexes.

Autonomic Nervous System: Organization And Functions

Synapse & Neuromuscular Junction

THE CARDIOVASCULAR SYSTEM(- 3 Hrs)

Anatomy Of The Heart, Structure And Function Of Cardiac Muscle, Conducting System Of Heart, Systemic And Pulmonary Circulation, Over View -Heart Rate, Stroke Volume, Cardiac Output, Heart Sounds, Pulse, BP

RESPIRATORY SYSTEM(- 4 Hrs)

An Overview of respiratory system: air way anatomy, muscles of ventilation, Regulation of Respiration

Functions of respiratory system, ventilation : exchange & transport of respiratory gases, surfactant.

Applied aspects: artificial respiration, hypoxia, Cyanosis, Abnormal patterns of Breathing.

ENDOCRINE SYSTEM & REPRODUCTIVE SYSTEM – (– 4 Hrs)

Over view of endocrine system; Calcium & Phosphate Metabolism, Regulation And Applied Aspects

Vitamin D synthesis & Glucose metabolism,

Hormonal changes during Pregnancy.

Contraceptive methods SPECIAL

SENSES – (– 2 Hrs)

Tongue:-

Taste Buds, Primary Taste sensation and abnormalities of taste

Olfaction

SECTION-A
PATHOLOGY & MICROBIOLOGY

30 Hrs

- General Principles of Pathology - Inflammation, Degeneration and repair.
- Application of general principles of pathology of teeth and surrounding tissues.
- Development of teeth and Histology of enamel, Dentine, Pulp and Periodontal tissues.
- Brief description of Pathology and Bacteriology of Dental caries, Gingival and Periodontal infections.
- Importance of Microbiology & relation to maintenance of medical record.
- Names of the organisms – Bacteria
- Names of the organisms – Viruses
- Names of the organisms – Fungi
- Names of the organisms – Parasitology
- Names of common infectious diseases.
- Investigations done in microbiology

EXAM: MICROBIOLOGY + PATHOLOGY

Pathology 20 marks

Microbiology 15 marks

1. 5 marks X 5 questions = 25 marks (answer any 4 out of 6 questions)
2. 2 marks X 05 questions = 10 marks

Paper should be set by the pathologist and valued by the pathologist.

NO PRACTICAL EXAMINATION IN MICROBIOLOGY

SECTION-B

Subject: Applied Pharmacology

Syllabus:

Total Teaching 20 hrs

1. Introduction
 - a. Definition and terminology
Pharmacology, Drug (WHO Definition)
Pharmacokinetics, Pharmacodynamics
Pharmacotherapeutics, chemotherapy,
Clinical pharmacology, Toxicology and Pharmacopeias.
 - b. Drug nomenclature.
 - c. Concept of essential medicines list
2. Routes of drug administration in general and emphasis on Topical & Oral routes
3. Adverse drug reactions (ADR), Definition and types, with emphasis on side effects involving Oral Cavity, hypersensitivity reactions and their management.
4. Analgesics – Definition and types, ,
Commonly used NSAIDs- their Uses, adverse effects & Precautions
Ibuprofen, Diclofenac, Paracetamol, including Topical / Oral Preparations
5. Sedatives hypnotics- Diazepam, Alprazolam- Definition, uses in Dentistry, adverse effects
6. Antiseptic Mouth Washes and Gargles
7. Local anesthetics – Definition, Lignocaine, Benzocaine – Dosage Forms used in Dentistry including Uses.
8. Antimicrobial drugs - Definition , Uses of Amoxicillin, Doxycycline, Metronidazole in Dentistry
9. Styptics
10. Glucocorticoids – Emphasis on Topical Preparations, Uses in Dentistry and Adverse effects involving Oral cavity

Scheme of examination Internal

examination: Not required

Theory examination: could be conducted for 15 marks along with other subjects

1. Short Essay
1 x 5 = 5 (Answer any One out of Two Questions)
2 Short answers
5 x 2 = 10

SECTION-A

Basic Biochemistry

30 Hrs

- Carbohydrates:
 - Classification, chemistry & properties of monosaccharides, diaccharides, and polysaccharides.
- Proteins:
 - Proteins – Definition, classification, properties.
 - Amino acids - Definition, classification, essential & non essential amino acids. General reactions of amino acids. Formation of urea and creatinine.
 - Plasma proteins – Definition, classification and reference values.
- Lipids
 - Definition, classification and properties of lipids and lipoproteins.
- Nucleic acid chemistry
 - Definitions of DNA, RNA, purines and pyrimidines, nucleosides and nucleotides.
- Enzymes- Definition, Isoenzymes and factors affecting enzyme activity.
- Vitamins and Minerals: in brief about reference values in blood
- Abnormal Constituents of Urine.
- Nutrition in relation to general and oral health

Question paper pattern Theory

- | | |
|-------------------------|------------------------|
| 1. Long Essay Question. | 5 Marks X 2 = 10 Marks |
| 2. Short Notes Question | 5 Marks X 3 = 15 Marks |

No practical examination

Syllabus for Dental Radiology

1. Types of Dental Radiographs
2. Processing of Dental Radiographs
3. Dental Radiographic techniques
4. Radiation Hazards & Protection against Radiation

Question paper pattern Theory

1. Long Essay Question. 5 Marks X 2 = 10 Marks
2. Short Notes Question 5 Marks X 3 = 15 Marks

Scheme of Examination - 1½ Hours

Paper	SUBJECT	SECTION	PaperCode	MAX. MARKS	No. of Teaching Hour
Paper 1	General Anatomy, Histology	Section A	1DDHT01	25	30
	General Physiology	Section B	1DDHT02	25	30
Paper 2	General Pathology, Microbiology	Section A	1DDHT03	35	30
	Applied Pharmacology	Section B	1DDHT04	15	20
Paper 3	General Biochemistry	Section A	1DDHT05	25	30
	Radiology	Section B	1DDHT06	25	10

- 1) Tissues of the Periodontium,
 - a) Gingiva,
 - b) Cementum,
 - c) Periodontal ligament
 - d) Alveolar bone.
- 2) Saliva
 - a) Composition and functions
- 3) Gingival Diseases
 - a) Plaque induced
 - b) Non Plaque Induced
 - c) Gingival Recession
 - d) Gingival Enlargement
 - e) Acute Gingival Lesions – Anug, Acute Herpetic Gingivo stomatitis, pericoronitis.
- 4) Periodontitis – Chronic & Aggressive types
 - a) Periodontal Pocket
 - b) Gingival & Periodontal Abscess
- 5) Dental Plaque
 - a) Definition
 - b) Stages of Plaque formations
- 6) Calculus
 - a) Definition & Classification
 - b) Composition, Formation & Modes of attachment
 - c) Clinical Significance.
- 7) Dental Stains
 - a) Extrinsic & Intrinsic
- 8) Food impaction

- 1) Habits – Mouth breathing, Tongue thrusting, Bruxism others
- 2) Trauma from Occlusion – Define & Stages
- 3) Clinical Examination
History, Oral examination, Dental Examination, OHI(S) index, Radiographic Examination, Diagnosis, Prognosis & treatment planning.
- 4) Plaque control
Tooth brushes, methods of tooth brushing, power tooth brushes. Interdental cleaning Aids
Chemical Plaque Control methods
Dentifrices, Oral irrigation devices
Plaque control of Dental Implants
- 5) Instruments & Principles of Instrumentation. Basic
Sharpening principles
Ultrasonic & Sonic Scaling, mode of action, devices
Instrument Maintenance
- 6) Dental Hygiene
 - a) Definition
 - b) Objectives
 - c) Rules & Regulations of Dental Hygiene
- 7) Brief description of Sutures & Periodontal Dressing
- 8) Management of Patients with special needs
 - a) Pregnant Patient
 - b) Pediatric Patient
 - c) Oral & Maxillofacial Surgery patient.
 - d) Care of patients with Disabilities
 - e) Medically compromised Patients.
- 9) Medical & Dental Emergencies
 - a) Syncope
 - b) Shock
 - c) Diabetes(Hyperglycemia)
 - d) Hypertension
 - e) Haemophilia
 - f) Asthma

- 1) Public Health Dentistry
 - a) Introduction to Community Dentistry
 - b) Psychological aspects of the Child and Parents and their counseling
 - c) Aims and objectives of Dental Health Education
 - d) Water supply to community and their implications on dental health
 - e) General Epidemiology and Environmental Health
- 2) Dental Ethics & Jurisprudence
 - a) Definition of ethics, Professional ethics & ethical matters relating to health care
 - b) Dentists Act, 1948 as related to registration of Dental Hygienists and Dentists
- 3) Brief account of Oral Cancer and HIV & HBV associated Periodontitis
- 4) Dental Materials
 - a) General knowledge of various materials used in Dentistry and their manipulation
 - b) Impression materials and models materials
 - c) Dressing of plaster models, charts, posters and other Audio-Visual aids

Practicals:

100 marks

- a) Instruments & Sterilisation Techniques
- b) Instructions for Oral health maintenance
- c) Supportive Periodontal therapy (SPT)
- d) Various methods of Oral Prophylaxis
- e) Use of disclosing agent and various Oral hygiene aids
- f) Care of Oral cavity and appliances during Orthodontic, Prosthodontic and Maxillofacial cases
- g) Preparation of plaster models, charts and other audio-Visual aids
- h) Chairside assistance, reception & Patient appointments
- i) Accounts, book keeping and basic computer knowledge

Scheme of Examination 3 Hours

Paper	SUBJECT	Paper Code	MAX. MARKS	No. of Teaching Hour
Paper 1	Etiology and Pathogenesis of Periodontal diseases	2DDHT01	100	60
Paper 2	Diagnosis and Treatment of Periodontal disease	2DDHT02	100	60
Paper 3	Public Health Dentistry, ethics & Jurisprudence, Dental materials	2DDHT03	100	40
	Practicals	2DDHT04	100	60

Scheme of Practical Examination (only for Third year)

Practicals (Case History & Scaling): 80 marks

Viva-Voce : 20 marks

- Books

- Comprehensive review of Dental Hygiene - II Edition by Barby
- Clinical Periodontology for Dental Hygienist - Carranza. Jr.
- Fundamentals of Periodontal Instruments - III Edition by Jill
- Review of Dental Hygiene by Nelson
- Periodontics for Dental Hygiene - II Edition by Allen
- Dimensions of Dental Hygiene - III Edition by Pauline & Hpeelee
- Clinical Practice for Dental Hygiene - VII Edition by Willkins
- Periodontology for Denal Hygienist - by Perry
- Oral Hygiene - IV Edition by Bunting
- Dental Hygienist - Guide to Nutritional Care by Judy & Ratliss.
- Infection Control & Management of Hazardious material for Dental Team by Miller.
- Comprehensive Dental Hygiene Care - IV Edition by Irene R. Woodall.

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