GURU KASHI UNIVERSITY

B.VOC. in Dental Hygiene

Session 2025-26

Faculty of Health and Allied Sciences

Graduates Attributes

The programme B.VOC. in Dental Hygiene imparts to the students an Intensive knowledge to perform key Dental hygiene procedures such as scaling, polishing, root planning, application of preventive agents, and oral prophylaxis. Graduates develop competence in patient care, infection control, and health education, along with professional ethics, communication, and community orientation, preparing them for roles in clinical practice, public health, and lifelong learning in dental care.

Programme Learning Outcomes: After Completion Of this Course Gradates will able to:

- Graduates will be able to perform essential dental hygiene procedures such as scaling, polishing, root planning, and application of preventive agents with accuracy and efficiency, ensuring quality oral healthcare services.
- They will apply standard infection-control protocols, sterilization techniques, and safety measures to protect both patients and healthcare providers in clinical and community settings.
- Graduates will be able to educate, counsel, and motivate individuals and communities on proper oral hygiene practices, preventive dental care, and the importance of maintaining good oral health for overall well-being.
- They will demonstrate ethical values, empathy, and effective communication skills while collaborating with dentists, healthcare professionals, and patients, promoting teamwork and professional responsibility.
- Graduates will develop an aptitude for continuous learning, keeping pace with advances in dental science, engaging in research, and exploring entrepreneurial opportunities in dental hygiene practice and allied healthcare sectors.

Programme Structure

Semester 1st										
S. No.	**Course Code**	**Course Title**	**Type of Course**	**L**	**T**	**P**	**Cr.**	**Int**	**Ext**	**Total Marks**
1	BDH101	Anatomy & Physiology	Core Based	2	0	0	2	15	35	50
2	BDH102	Introduction to Dental Hygiene & Oral Biology	Core Based	2	0	0	2	15	35	50
3	BDH103	Basic Microbiology & Infection Control	Core Based	2	0	0	2	15	35	50
4	BDH104	Biomedical Waste Management	Core Based	2	0	0	2	15	35	50
5	BDH105	Entrepreneurship Setup & Lauch	Skill Based	0	0	4	2	15	35	50
6	BDH106	Anatomy & Physiology Practical	Skill Based	0	0	4	2	15	35	50
7	BDH107	Introduction to Dental Hygiene & Oral Biology Practical	Skill Based	0	0	4	2	15	35	50
8	BDH108	Basic Microbiology & Infection Control Practical	Skill Based	0	0	4	2	15	35	50
9	BDH109	Biomedical Waste Management Practical	Skill Based	0	0	4	2	15	35	50
10	BDH110	Communication and Soft Skills	Compulsory	2	0	0	2	15	35	50

			Foundation							
11	BDH111	Human Rights and Duties	Multi-Disciplinary	3	0	0	3	25	50	75
Total				**13**	**0**	**20**	**23**	**180**	**400**	**575**

Semester 2nd										
S. No.	**Course Code**	**Course Title**	**Type of Course**	**L**	**T**	**P**	**Cr.**	**Int**	**Ext**	**Total Marks**
1	BDH201	Dental Anatomy & Tooth Morphology	Core Based	2	0	0	2	15	35	50
2	BDH202	Oral Pathology & Dental Material	Core Based	2	0	0	2	15	35	50
3	BDH203	Community Dentistry & Preventive Practice	Core Based	2	0	0	2	15	35	50
4	BDH204	Medical Terminology and Record Keeping	Core Based	2	0	0	2	15	35	50
5	BDH205	Basic Fundamental of Dental	Core Based	2	0	0	2	15	35	50
6	BDH206	Dental Anatomy & Tooth Morphology Practical	Skill Based	0	0	4	2	15	35	50
7	BDH207	Oral Pathology & Dental Material Practical	Skill Based	0	0	4	2	15	35	50
8	BDH208	Community Dentistry & Preventive Practices Practical	Skill Based	0	0	4	2	15	35	50
9	BDH209	Medical Terminology and Record Keeping Practical	Skill Based	0	0	4	2	15	35	50
10	BDH210	Basic Fundamental of Dental Practical	Skill Based	0	0	4	2	15	35	50
11	BDH211	Environmental Sciences	Compulsory Foundation	2	0	0	2	15	35	50
12	BDH212	First Aid	Value Added	2	0	0	2	15	35	50

			Courses							
Total				**14**	**0**	**20**	**24**	**180**	**420**	**600**

Semester 3rd										
S. No.	**Course Code**	**Course Title**	**Type of Course**	**L**	**T**	**P**	**Cr.**	**Int**	**Ext**	**Total Marks**
1	BDH301	Periodontology & Preventive Dentistry	Core Based	2	0	0	2	15	35	50
2	BDH302	Dental Radiology & Imaging Basics	Core Based	2	0	0	2	15	35	50
3	BDH303	Nutrition & General Health in Dentistry	Core Based	2	0	0	2	15	35	50
4	BDH304	Local Anaesthesia and Pain Management	Core Based	2	0	0	2	15	35	50
5	BDH305	Community Dental Health	Core Based	2	0	0	2	15	35	50
6	BDH306	Periodontology & Preventive Dentistry Practical	Skill Based	0	0	4	2	15	35	50
7	BDH307	Dental Radiology & Imaging Basics Practical	Skill Based	0	0	4	2	15	35	50
8	BDH308	Nutrition & General Health in Dentistry Practical	Skill Based	0	0	4	2	15	35	50
9	BDH309	Local Anaesthesia and Pain Management Practical	Skill Based	0	0	4	2	15	35	50
10	BDH310	Community Dental Health Practical	Skill Based	0	0	4	2	15	35	50

11	BDH311	Pharmacology for Dental Hygienists	Compulsory Foundation	3	0	0	3	25	50	75
Total				**13**	**0**	**20**	**23**	**180**	**400**	**575**

Semester 4th										
S. No.	**Course Code**	**Course Title**	**Type of Course**	**L**	**T**	**P**	**Cr.**	**Int**	**Ext**	**Total Marks**
1	BDH401	Oral Medicine & Dental Pharmacology	Core Based	2	0	0	2	15	35	50
2	BDH402	Clinical Dental Hygiene – I	Core Based	2	0	0	2	15	35	50
3	BDH403	Dental Public Health & Epidemiology	Core Based	2	0	0	2	15	35	50
4	BDH404	Hospital Operation Management for Dental	Core Based	2	0	0	2	15	35	50
5	BDH405	Oral Anatomy and Embryology	Core Based	2	0	0	2	15	35	50
6	BDH406	Oral Medicine & Dental Pharmacology Practical	Skill Based	0	0	4	2	15	35	50
7	BDH407	Clinical Dental Hygiene – I Practical	Skill Based	0	0	4	2	15	35	50
8	BDH408	Dental Public Health & Epidemiology Practical	Skill Based	0	0	4	2	15	35	50
9	BDH409	Hospital Operation Management for Dental Practical	Skill Based	0	0	4	2	15	35	50
10	BDH410	Oral Anatomy and Embryology Practical	Skill Based	0	0	4	2	15	35	50
11	BDH411	Sociology and Community Health	Multi-Disciplinary	3	0	0	3	25	50	75
12	BDH412	Community Medicine	Value Added Courses	2	0	0	2	15	35	50

Total	**15**	**0**	**20**	**25**	**190**	**490**	**625**

Semester 5th										
S. No.	**Course Code**	**Course Title**	**Type of Course**	**L**	**T**	**P**	**Cr.**	**Int**	**Ext**	**Total Marks**
1	BDH501	Clinical Dental Hygiene – II	Core Based	2	0	0	2	15	35	50
2	BDH502	Geriatric Dentistry	Core Based	2	0	0	2	15	35	50
3	BDH503	Advanced periodontology Surgical Assisting	Core Based	2	0	0	2	15	35	50
4	BDH504	Advanced Radiology & Dental Imaging	Core Based	2	0	0	2	15	35	50
5	BDH505	Research Methodology & Biostatistics	Core Based	2	0	0	2	15	35	50
6	BDH506	Preventive Oral Care	Core Based	2	0	0	2	15	35	50
7	BDH507	Clinical Dental Hygiene – II Practical	Skill Based	0	0	4	2	15	35	50
8	BDH508	Geriatric Dentistry Practical	Skill Based	0	0	4	2	15	35	50
9	BDH509	Advanced periodontology Surgical Assisting Practical	Skill Based	0	0	4	2	15	35	50
10	BDH510	Advanced Radiology & Dental Imaging Practical	Skill Based	0	0	4	2	15	35	50
11	BDH511	Research Methodology & Biostatistics Practical	Skill Based	0	0	4	2	15	35	50

12	BDH512	Preventive Oral Care Practical	Skill Based	0	0	4	2	15	35	50
Total				**12**	**0**	**24**	**24**	**180**	**420**	**600**

Semester 6th										
S. No.	**Course Code**	**Course Title**	**Type of Course**	**L**	**T**	**P**	**Cr.**	**Int**	**Ext**	**Total Marks**
1	BDH601	Internship	Skill Based	0	0	40	20	150	350	500
Total				**0**	**0**	**40**	**20**	**150**	**350**	**500**
Grand Total				**67**	**0**	**144**	**139**	**950**	**2450**	**3485**

Semester 1st

Course Title: Anatomy & Physiology	L	T	P	Cr
Course Code: BDH101	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the structural organization of the human body from cells to organ systems.
2. Describe the gross anatomy and physiology of major systems relevant to dental hygiene.
3. Relate the interdependence of organ systems in maintaining homeostasis.
4. Apply anatomical and physiological knowledge to clinical dental hygiene practice.
5. Demonstrate the ability to identify anatomical landmarks and functions relevant to oral and maxillofacial regions.

Course Contents

UNIT-I **10 Hours**

- General Anatomy & Physiology
  - Introduction to Anatomy & Physiology: Terminology, Levels of Organization, Anatomical Planes & Positions.
  - Cell structure & function: Plasma membrane, cytoplasm, organelles, nucleus, cell division (mitosis, meiosis).
  - Tissues: Epithelial, connective, muscular, nervous structure, classification, and functions.
  - Basic concepts of homeostasis.

UNIT-II **10 Hours**

- Skeletal & Muscular System
  - Skeletal System: Classification of bones, bone structure, ossification, types of joints, movements, skeletal system of head and neck with special reference to maxilla and mandible.

- Muscular System: Types of muscles, structure of skeletal muscle, physiology of muscle contraction, major muscles of mastication and facial expression.

UNIT-III **5 Hours**

- Circulatory & Respiratory System
  - Cardiovascular System: Structure of heart, cardiac cycle, blood vessels, blood pressure, circulation (systemic & pulmonary), blood composition and functions.
  - Respiratory System: Anatomy of upper & lower respiratory tract, physiology of respiration, gas exchange.

UNIT-IV **5 Hours**

- Nervous & Digestive System
  - Nervous System: Structure of neuron, synapse, central and peripheral nervous system overview, cranial nerves with emphasis on trigeminal and facial nerves.
  - Digestive System: Anatomy of digestive organs, physiology of digestion, role of saliva and oral cavity in digestion.

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *TORTORA GJ, DERRICKSON BH. Principles of Anatomy and Physiology. 15th ed. Hoboken (NJ): John Wiley & Sons; 2017.*
- *MARIEB EN, HOEHN K. Human Anatomy & Physiology. 11th ed. Boston: Pearson; 2018.*
- *ROSS MH, PAWLINA W. Histology: A Text and Atlas with Correlated Cell and Molecular Biology. 7th ed. Philadelphia: Wolters Kluwer; 2015.*
- *SNELL RS. Clinical Anatomy by Regions. 9th ed. Philadelphia: Wolters Kluwer; 2012.*
- *STANDRING S, editor. Gray's Anatomy: The Anatomical Basis of Clinical Practice. 42nd ed. London: Elsevier; 2021.*
- *GUYTON AC, HALL JE. Textbook of Medical Physiology. 14th ed. Philadelphia: Elsevier; 2021.*

- *DATTA AK. Essentials of Human Anatomy: Head & Neck. 5th ed. Kolkata: Current Books International; 2018.*
- *CHATERJEE CC. Human Physiology. 12th ed. Kolkata: CBS Publishers; 2018.*

Course Title: Introduction to Dental Hygiene & Oral Biology	L	T	P	Cr
Course Code: BDH102	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Describe the scope and principles of dental hygiene practice.
2. Explain the structure, development, and function of oral tissues.
3. Identify normal oral anatomy and common variations relevant to dental hygiene.
4. Demonstrate understanding of oral microorganisms and their role in health and disease.
5. Correlate oral health with systemic health and preventive dental care.

Course Contents

UNIT-I **10 Hours**

- Fundamentals of Dental Hygiene
  - Introduction to dental hygiene: history, philosophy, and scope.
  - Professional roles, ethics, and responsibilities of a dental hygienist.
  - Basic concepts of oral health and preventive dentistry.
  - Patient education and motivation for maintaining oral hygiene.

UNIT-II **10 Hours**

- Oral Biology: Oral Structures & Development
  - Anatomy and physiology of the oral cavity.
  - Teeth: morphology, eruption, and shedding patterns.
  - Gingiva, periodontal ligament, cementum, and alveolar bone.
  - Salivary glands: structure, function, and role in oral health

UNIT-III **5 Hours**

- Oral Microbiology
  - Introduction to oral microflora and biofilm formation.
  - Role of dental plaque and calculus in oral diseases.
  - Common oral pathogens and host defense mechanisms.

UNIT-IV **5 Hours**

- Oral Health & Systemic Relations
  - Oral manifestations of systemic diseases.
  - Relationship between oral hygiene and overall health.
  - Preventive measures and community oral health awareness.

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *BIRKELAND JM, CRAIG RG, PAQUETTE DW. Clinical Practice of the Dental Hygienist. 13th ed. Philadelphia: Wolters Kluwer; 2020.*
- *TEN CATE AR. Oral Histology: Development, Structure and Function. 9th ed. St. Louis: Elsevier; 2019.*
- *BIRKELAND JM, HILL M, DARBY ML. Dental Hygiene Theory and Practice. 5th ed. St. Louis: Elsevier; 2021.*
- *NIELD-GRANTZEGAN A, WILKINS EM. Wilkins' Clinical Practice of the Dental Hygienist. 12th ed. Philadelphia: Wolters Kluwer; 2017.*
- *MCGUIRE MK, NAGY RJ. Periodontology for the Dental Hygienist. 5th ed. St. Louis: Elsevier; 2021.*
- *SURESH BS, NATARAJAN S. Textbook of Oral Biology. New Delhi: Jaypee Brothers; 2018.*
- *NEWMAN MG, TAKEI HH, KLINGE B, CARRANZA FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *BEERSTEN E, POPOVICH F, GLASSMAN P. Community Oral Health Practice for the Dental Hygienist. 4th ed. St. Louis: Elsevier; 2016.*

Course Title: Basic Microbiology & Infection Control	L	T	P	Cr
Course Code: BDH103	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the fundamental principles of microbiology and classification of microorganisms.
2. Describe the morphology, structure, and growth characteristics of bacteria, viruses, fungi, and parasites.
3. Understand the principles of infection control, sterilization, and disinfection in healthcare settings.
4. Identify common oral and systemic pathogens relevant to dental practice.
5. Apply knowledge of infection prevention protocols to ensure patient and operator safety.

Course Contents

UNIT-I **10 Hours**

- Fundamentals of Microbiology
  - History and scope of microbiology.
  - Classification and nomenclature of microorganisms.
  - Structure and function of bacterial cell.
  - Growth, nutrition, and reproduction of bacteria.

UNIT-II **10 Hours**

- Microorganisms of Medical Importance
  - Viruses: structure, replication, and examples of medically important viruses.
  - Fungi: morphology, reproduction, and common pathogenic fungi.
  - Parasites: introduction and examples of oral relevance.
  - Normal flora of the oral cavity and its significance.

UNIT-III **5 Hours**

- Principles of Infection & Immunity

- Sources and modes of transmission of infection.
- Host defense mechanisms: innate and adaptive immunity.
- Opportunistic infections in dental practice.

UNIT-IV **5 Hours**

- Infection Control in Dentistry
  - Sterilization and disinfection methods.
  - Biomedical waste management.
  - Standard precautions (hand hygiene, PPE, surface disinfection).
  - Infection control protocols in dental operatory.

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- TORTORA GJ, FUNKE BR, CASE CL. *Microbiology: An Introduction.* 13th ed. Boston: Pearson; 2020.
- PRESCOTT LM, HARLEY JP, KLEIN DA. *Microbiology.* 10th ed. New York: McGraw-Hill; 2017.
- PELCZAR MJ, CHAN ECS, KRIEG NR. *Microbiology: Concepts and Applications.* 5th ed. New Delhi: Tata McGraw-Hill; 2019.
- WILSON J. *Topley & Wilson's Microbiology and Microbial Infections.* 11th ed. Hoboken: Wiley-Blackwell; 2019.
- GREENWOOD D, SLACK R, PEUTHERER J. *Medical Microbiology: A Guide to Microbial Infections.* 19th ed. Edinburgh: Churchill Livingstone; 2019.
- SINGH R. *Textbook of Microbiology.* 2nd ed. New Delhi: Jaypee Brothers; 2017.
- MILLER CH, PALENIK CJ. *Infection Control and Management of Hazardous Materials for the Dental Team.* 6th ed. St. Louis: Elsevier; 2017.
- HARGREAVES JA, ROBERTSON D. *Practical Infection Control in Dentistry.* 3rd ed. London: Quintessence Publishing; 2019.

Course Title: Biomedical Waste Management	L	T	P	Cr
Course Code: BDH104	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

Understand the concept and importance of biomedical waste management in healthcare.

Classify biomedical waste according to national and international guidelines.

Explain methods of segregation, collection, transport, treatment, and disposal of biomedical waste.

Identify occupational hazards related to biomedical waste and apply safety measures.

Correlate biomedical waste management with infection control and environmental protection.

Course Contents

UNIT-I **10 Hours**

Introduction to Biomedical Waste

- Definition, scope, and importance of biomedical waste management.
- Sources and categories of biomedical waste in healthcare and dental settings.
- Biomedical Waste Management Rules (India, 2016 & amendments).

UNIT-II **10 Hours**

Segregation and Handling

- Segregation of waste at the point of generation.
- Color coding, containers, and labeling standards.
- Collection, storage, and transport of biomedical waste.
- Role of healthcare workers in waste handling.

UNIT-III **5 Hours**

Treatment & Disposal Methods

- Autoclaving, incineration, chemical disinfection, microwaving

- Safe disposal methods for sharps, plastics, and liquid waste.
- Recycling and environmental considerations.

UNIT-IV **5 Hours**

Safety & Legal Aspects

- Occupational hazards and risk management.
- Use of personal protective equipment (PPE).
- Legal issues, ethical considerations, and penalties for non-compliance.
- Role of government agencies and regulatory bodies.

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *PARK K. Park's Textbook of Preventive and Social Medicine. 26th ed. Jabalpur: Banarsidas Bhanot; 2021.*
- *GOVT OF INDIA. Biomedical Waste Management Rules, 2016 & Amendments 2018/2019. Ministry of Environment, Forest and Climate Change.*
- *CHARTERED INSTITUTE OF WASTE MANAGEMENT. Biomedical Waste Management: Principles and Practices. London: CIWM Publications; 2018.*
- *ALI M, KARTER A. Management of Biomedical Waste. New Delhi: APH Publishing; 2019.*
- *PRÜSS-ÜSTÜN A, TOWNEND WK. Safe Management of Wastes from Health-Care Activities. 2nd ed. Geneva: WHO Press; 2014.*
- *ANANTHANARAYAN R, PANIKER CKJ. Textbook of Microbiology. 10th ed. Hyderabad: Universities Press; 2017.*
- *GOEL S. Textbook of Environmental Studies. New Delhi: Cengage Learning; 2016.*
- *JOSHI SK. Infection Control and Biomedical Waste Management. Kathmandu: Health Learning Materials Centre; 2018.*

Course Title: Entrepreneurship Setup & Lauch	L	T	P	Cr.
Course Code: BDH105	0	0	4	2

Introduction: This semester lays the foundation for the learner to understand what entrepreneurship is, beyond just starting a business. It introduces key ideas like problem-solving, value creation, and self-awareness. The learner will begin exploring basic business concepts while discovering their own interests and strengths.

Learners Objective: After Completion of this course, the learner will be able to:

1. Understand the core concepts of entrepreneurship through relatable, real-life examples.
2. Begin to see themselves as problem-solvers and creators.
3. Learn about business paths and choose one to try based on interest or local fit.
4. Launch a micro-hustle (online or offline) to earn their first income.
5. Build confidence and self-belief by doing.

Outcome: By the end of this semester, learners will start a simple business activity, earn their first income, and build belief in their ability to do business.

Guiding Principles/Approach: This syllabus is built on principles of experiential learning, growth mindset development, and identity-first learning. Drawing from learning science and behavior design, the course shifts students from passive learning to *active doing*, where they try out small business activities in real contexts. The design helps students not just learn entrepreneurship, but begin to see themselves as entrepreneurs. Emphasis is placed on *small wins, peer collaboration, and locally relevant opportunities* to ensure learning feels achievable and connected to their realities. The curriculum focuses on conceptual understanding without heavy theory, combining practical

action, reflection, and collaboration. By making progress visible and success feel possible, it plants the seeds of self-reliance, initiative, and long-term motivation.

Semester Syllabus:

Format: 12 weeks, 4 hours/week | 2 credits

Revenue Target: ₹10,000

Week	Learning Goal	Measurable Outcome
1	Understand what entrepreneurship is and who can be an entrepreneur	Students define entrepreneurship in their own words and list 2 entrepreneurs from their local area or community
2	Connect personal identity to entrepreneurship (strengths, interests, struggles)	Students create a "value map" showing how a skill/interest/problem from their life could become a business opportunity
3	Learn about 5 business paths: content creation, dropshipping, cloud kitchen/food business, gig economy and local services	Students explore 1–2 examples from each domain and share one they're most curious to try and why
4	Choose a path and generate a basic business idea	Students write down a clear offer (what, for whom, why) and one way to reach their customer
5	Take first real action: message, post, pitch, or sell	Students reach out to or serve 1 real potential customer and record what happened
6	Reflect on first attempt and share with peers	Students share their result, a challenge faced, and one idea to improve next time

7	Improve and try again: aim for first ₹100	Students apply a change, try again, and aim to make their first ₹100 or get meaningful response
8	Learn how to identify and understand your target customer	Students talk to 2 potential customers or observe them and list 3 insights about their needs
9	Learn how to serve your target audience better	Students improve one part of their offer (product, delivery, messaging, or interaction) based on customer feedback or need
10	Explore core entrepreneurial values (resilience, honesty, effort)	Students reflect on 1 value they're building and show it in a business task or peer story
11	Focus on earning and staying consistent	Students complete a second earning task and track their consistency (e.g., same product or message for 3 days)
12	Reflect on earnings, grit, and how to keep going	Students record total earnings, one resilience moment, and one support system or habit they'll continue with

Weekly Component:

Component	Duration	Description
Learning Module	~1.5 hrs	• Introduces key concepts in a simple and engaging way • Includes, examples, and 1–2 interactive discussions or quizzes

Action Lab	~2 hrs	• Hands-on task on the weekly concept • Includes step-by-step guidance, templates, and worksheets • Ends with a submission (e.g., video, reflection, or proof of action)
Resources	Self-paced	• Supplementary videos, short readings, real- life stories, and tools to deepen understanding at their own pace

Evaluation Criteria

Evaluation Component	**Description**	**Weightage**
Weekly Task Completion	Timely submission of weekly tasks including reflections, activities, quizzes etc.	40%
Target Completion	Performance-based evaluation on hitting **revenue or profit targets** (e.g., generating ₹10,000 revenue)	30%
Final Project	A comprehensive project based on the semester's theme	30%

Course Title: Anatomy & Physiology Practical	L	T	P	Cr.
Course Code: BDH106	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Demonstrate the identification of bones, joints, and muscles using models and specimens.
2. Perform basic physiological experiments related to cardiovascular, respiratory, and nervous systems.
3. Illustrate microscopic structures of tissues through histology slides.
4. Apply anatomical knowledge to understand the functional correlation of different organ systems.
5. Develop practical skills in handling laboratory equipment safely and effectively.

Course Content

List of Practical's / Experiments: 60 Hours

- Study of human skeleton – identification of bones and major landmarks.
- Demonstration of different types of joints with models.
- Identification of important muscles of the body with models.
- Histology: microscopic examination of epithelial tissue, connective tissue, muscular tissue, and nervous tissue.
- Measurement of pulse rate and blood pressure in normal subjects.
- Recording of body temperature and understanding thermoregulation.
- Examination of hemoglobin concentration by Sahli's method.
- Estimation of total leukocyte count (TLC) and differential leukocyte count (DLC).
- Determination of blood group and Rh factor.
- Demonstration of spirometry – measurement of vital capacity and lung volumes.
- Study of reflexes (superficial and deep).
- Demonstration of heart sounds using stethoscope.

- Practical demonstration of ECG recording (basic).
- Observation of prepared slides of kidney, liver, lung, and skin.
- Case-based correlation of anatomy and physiology with clinical relevance.

Suggested Readings

- *TORTORA GJ, DERRICKSON B. Principles of Anatomy and Physiology. 15th ed. Hoboken: Wiley; 2017.*
- *MARIEB EN, HOEHN K. Human Anatomy & Physiology. 11th ed. Boston: Pearson; 2019.*
- *ROSS MH, PAWLINA W. Histology: A Text and Atlas. 8th ed. Philadelphia: Wolters Kluwer; 2020.*
- *GUYTON AC, HALL JE. Textbook of Medical Physiology. 14th ed. Philadelphia: Elsevier; 2021.*
- *CHAITANYA PV. Practical Manual of Human Anatomy & Physiology. 2nd ed. New Delhi: PharmaMed Press; 2018.*
- *BELL DR. Medical Physiology: Principles for Clinical Medicine. 6th ed. Philadelphia: Wolters Kluwer; 2020.*
- *SINGH I. Textbook of Anatomy with Colour Atlas. 9th ed. New Delhi: Jaypee Brothers; 2018.*
- *GUPTA P. Practical Physiology. 10th ed. New Delhi: CBS Publishers; 2019.*

Course Title: Introduction to Dental Hygiene & Oral Biology Practical	L	T	P	Cr.
Course Code: BDH107	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Demonstrate correct toothbrushing and interdental cleaning techniques.
2. Identify oral anatomical structures using models and specimens.
3. Apply plaque disclosure methods and record oral hygiene status.
4. Perform patient education sessions on oral hygiene practices.
5. Maintain infection control and safety protocols during dental hygiene procedures.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of oral anatomical landmarks on models and charts.
- Demonstration and practice of toothbrushing techniques (Modified Bass, Fones, Stillman, Charter's).
- Demonstration of interdental aids: dental floss, interdental brushes, water flossers.
- Application of disclosing agents to visualize dental plaque.
- Recording Oral Hygiene Index–Simplified (OHI-S) and Plaque Index in peers.
- Study of tooth eruption charts and recognition of primary vs permanent dentition on models.
- Demonstration of dental charting methods (FDI, Palmer, Universal).
- Chair-side patient education role play: diet counseling for oral health.
- Observation of salivary gland models and discussion of salivary secretion.
- Practice of safe handling of dental instruments used in oral prophylaxis.

- Infection control exercise: hand hygiene, PPE, and sterilization of instruments.
- Demonstration of fluoride application techniques (toothpaste, mouth rinses, varnish).
- Observation of common oral lesions with charts/images.
- Case discussions linking oral biology to preventive dental hygiene.
- Group presentation on oral health promotion in community settings.

Suggested Readings

- *WILKINS EM, NIELD-GRANTZEGAN A, WYMAN J. Clinical Practice of the Dental Hygienist. 13th ed. Philadelphia: Wolters Kluwer; 2020.*
- *DARBY ML, WALSH MM. Dental Hygiene: Theory and Practice. 5th ed. St. Louis: Elsevier; 2020.*
- *BIRKELAND JM, HILL M. Comprehensive Dental Hygiene Care. 7th ed. Boston: Cengage Learning; 2016.*
- *HARGREAVES JA, ROBERTSON D. Practical Infection Control in Dentistry. 3rd ed. London: Quintessence Publishing; 2019.*
- *NEWMAN MG, TAKEI HH, KLINGE B, CARRANZA FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *BEERSTEN E, POPOVICH F, GLASSMAN P. Community Oral Health Practice for the Dental Hygienist. 4th ed. St. Louis: Elsevier; 2016.*
- *SURESH BS, NATARAJAN S. Textbook of Oral Biology. New Delhi: Jaypee Brothers; 2018.*
- *MILLER CH, PALENIK CJ. Infection Control and Management of Hazardous Materials for the Dental Team. 6th ed. St. Louis: Elsevier; 2017.*

Course Title: Basic Microbiology & Infection Control Practical	L	T	P	Cr.
Course Code: BDH108	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Demonstrate basic microbiological laboratory techniques including aseptic handling.
2. Perform staining methods to identify bacterial morphology.
3. Carry out culture methods for the isolation of microorganisms.
4. Apply infection control measures such as hand hygiene, PPE, sterilization, and disinfection.
5. Interpret microbiological findings in relation to dental hygiene and infection prevention.

Course Content

List of Practical's / Experiments: 60 Hours

- Introduction to microbiology laboratory, biosafety guidelines, and waste disposal.
- Hand hygiene demonstration and compliance assessment.
- Use of personal protective equipment (PPE) in microbiology and dental clinics.
- Preparation and sterilization of culture media (autoclaving, hot air oven, filtration).
- Aseptic techniques: handling pipettes, inoculating loops, and culture transfers.
- Microscopic observation of bacteria, fungi, and oral flora (wet mount, simple staining).
- Gram staining and interpretation of Gram-positive vs. Gram-negative bacteria.
- Special staining methods: spore stain, capsule stain, and acid-fast stain.

- Culture methods: streak plate, pour plate, and spread plate for isolation of microorganisms.
- Observation of colony morphology and growth patterns on different media.
- Antibiotic sensitivity testing (demonstration of Kirby-Bauer disc diffusion method).
- Demonstration of disinfection and sterilization methods (chemical disinfectants, UV, fumigation).
- Air sampling and surface sampling techniques for microbial monitoring.
- Case-based exercises: interpretation of microbiological findings in dental hygiene and infection control.
- Record keeping and infection control audits in dental healthcare settings.

Suggested Readings

- TORTORA GJ, FUNKE BR, CASE CL. *Microbiology: An Introduction.* 13th ed. Pearson; 2020.
- PRESCOTT LM, HARLEY JP, KLEIN DA. *Microbiology.* 10th ed. McGraw Hill; 2017.
- ANANTHANARAYAN R, PANIKER CKJ. *Textbook of Microbiology.* 10th ed. Universities Press; 2017.
- PARK K. *Textbook of Preventive and Social Medicine.* 27th ed. Bhanot; 2023.
- CDC. *Guidelines for Infection Control in Dental Health-Care Settings.* Centers for Disease Control and Prevention; 2003.

Course Title: Biomedical Waste Management Practical	L	T	P	Cr.
Course Code: BDH109	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Demonstrate basic microbiological laboratory techniques including aseptic handling.
2. Perform staining methods to identify bacterial morphology.
3. Carry out culture methods for the isolation of microorganisms.
4. Apply infection control measures such as hand hygiene, PPE, sterilization, and disinfection.
5. Interpret microbiological findings in relation to dental hygiene and infection prevention.

Course Content

List of Practical's / Experiments: 60 Hours

- Introduction to laboratory safety rules and biosafety practices.
- Familiarization with common microbiology laboratory equipment (microscope, autoclave, incubator, laminar air flow).
- Preparation and sterilization of culture media.
- Demonstration of aseptic techniques.
- Smear preparation and simple staining of bacteria.
- Gram staining for differentiation of Gram-positive and Gram-negative bacteria.
- Acid-fast staining (Ziehl–Neelsen method).
- Observation of fungal structures using lactophenol cotton blue mount.
- Study of bacterial motility (hanging drop method).
- Culture methods: streak plate, pour plate, and spread plate technique.
- Demonstration of microbial growth in liquid media.
- Enumeration of microorganisms by colony counting.
- Hand hygiene practices: demonstration of handwashing techniques and use of hand rubs.
- Demonstration of PPE (gloves, masks, gowns, goggles).

- Sterilization methods: autoclaving, hot air oven, filtration.
- Disinfection methods: use of chemical disinfectants in laboratory and dental settings.
- Safe disposal of biomedical and microbiological waste (color coding and segregation).
- Case-based exercise on cross-infection control in dentistry.

Suggested Readings

- *PELCZAR MJ, CHAN ECS, KRIEG NR. Microbiology: Concepts and Applications. 5th ed. New Delhi: Tata McGraw-Hill; 2019.*
- *TORTORA GJ, FUNKE BR, CASE CL. Microbiology: An Introduction. 13th ed. Boston: Pearson; 2020.*
- *PRESCOTT LM, HARLEY JP, KLEIN DA. Microbiology. 10th ed. New York: McGraw-Hill; 2017.*
- *MILLER CH, PALENIK CJ. Infection Control and Management of Hazardous Materials for the Dental Team. 6th ed. St. Louis: Elsevier; 2017.*
- *JOSHI SK. Infection Control and Biomedical Waste Management. Kathmandu: Health Learning Materials Centre; 2018.*
- *GREENWOOD D, SLACK R, PEUTHERER J. Medical Microbiology: A Guide to Microbial Infections. 19th ed. Edinburgh: Churchill Livingstone; 2019.*
- *ANANTHANARAYAN R, PANIKER CKJ. Textbook of Microbiology. 10th ed. Hyderabad: Universities Press; 2017.*
- *FORBES BA, SAHM DF, WEISSFELD AS. Bailey & Scott's Diagnostic Microbiology. 14th ed. St. Louis: Elsevier; 2017.*

Course Title: Communication and Soft Skills	L	T	P	Cr
Course Code: BDH110	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Demonstrate effective verbal and non-verbal communication in academic and healthcare settings.
2. Develop active listening and interpersonal skills for better patient interaction.
3. Apply professional etiquette, teamwork, and leadership skills in workplace scenarios.
4. Improve presentation skills, group discussions, and interview techniques.
5. Enhance self-confidence, adaptability, and emotional intelligence in professional life.

Course Contents

UNIT-I **10 Hours**

- Meaning, process, and importance of communication.
- Types of communication: verbal, non-verbal, written, and digital.
- Barriers to effective communication and strategies to overcome them.
- Role of communication in healthcare and patient care.

UNIT-II **10 Hours**

- Listening skills and empathy in communication.
- Building rapport with patients and colleagues.
- Teamwork, conflict resolution, and workplace etiquette.
- Cultural sensitivity and communication in diverse settings.

UNIT-III **5 Hours**

- Techniques of effective oral presentations.
- Body language and voice modulation.
- Conducting seminars, case presentations, and group discussions.

UNIT-IV **5 Hours**

- Self-awareness, self-confidence, and time management.

- Leadership qualities and decision-making.
- Interview preparation, résumé building, and workplace soft skills.

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *KAUL A. Effective Business Communication. 2nd ed. New Delhi: Prentice Hall of India; 2019.*
- *BOYES A. The Executive Guide to Emotional Intelligence. New York: McGraw-Hill; 2020.*
- *SEN L, INAMDAR F. Communication and Soft Skills. New Delhi: PHI Learning; 2017.*
- *GUPTA R. Developing Communication Skills. New Delhi: McGraw-Hill Education; 2018.*
- *KURIAN A. Soft Skills for Healthcare Professionals. 1st ed. New Delhi: Jaypee Brothers; 2020.*
- *ROGERS C, FARSON RE. Active Listening. Chicago: Industrial Relations Center, University of Chicago; 2015.*
- *PEASE A, PEASE B. The Definitive Book of Body Language. New York: Bantam Books; 2017.*
- *COTTRELL S. Skills for Success: Personal Development and Employability. 4th ed. London: Palgrave Macmillan; 2021.*

Course Title: Human Rights and Duties	L	T	P	Cr
Course Code: BDH111	3	0	0	3

Total Hours 45

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the concept, origin, and significance of human rights in national and international contexts.
2. Describe the constitutional provisions related to fundamental rights and duties in India.
3. Analyze the role of various institutions, commissions, and international organizations in safeguarding human rights.
4. Recognize issues of social justice, gender equality, and rights of marginalized groups.
5. pply knowledge of rights and duties in healthcare and community service contexts.

Course Contents

UNIT-I **15 Hours**

- Concept, definition, and evolution of human rights.
- Universal Declaration of Human Rights (1948).
- International Covenants on Civil, Political, Economic, Social, and Cultural Rights.
- Role of United Nations in promoting human rights.

UNIT-II **10 Hours**

- Fundamental Rights under the Indian Constitution.
- Directive Principles of State Policy.
- Fundamental Duties of Indian citizens.
- Right to Equality, Freedom, and Constitutional Remedies.

UNIT-III **10 Hours**

- National Human Rights Commission (NHRC) and State Human Rights Commissions.
- Role of judiciary in protecting human rights.
- Special laws related to child rights, women's rights, and labor rights.

- Human rights and healthcare: patient rights and medical ethics.

UNIT-IV **10 Hours**

- Rights of marginalized and vulnerable groups: women, children, minorities, disabled, elderly.
- Gender justice and empowerment.
- Environmental rights and sustainable development.
- Balancing human rights with fundamental duties in society.

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *BASU DD. Introduction to the Constitution of India. 24th ed. Gurgaon: LexisNexis; 2019.*
- *JAYAKUMAR N. Human Rights and Duties. 3rd ed. New Delhi: Atlantic Publishers; 2018.*
- *MEHTA P. Human Rights: Global and National Perspectives. New Delhi: PHI Learning; 2017.*
- *SINGH B. Human Rights in India: Issues and Challenges. New Delhi: Sage Publications; 2020.*
- *VERMA SK. Human Rights Law and Practice. 2nd ed. New Delhi: Universal Law Publishing; 2018.*
- *UNITED NATIONS. Universal Declaration of Human Rights. New York: UN; 2015.*
- *ALSTON P, GOODHART M. International Human Rights. 5th ed. Oxford: Oxford University Press; 2019.*
- *SUBRAMANIAN S. Human Rights: International Instruments and Indian Implementation. New Delhi: Deep & Deep; 2017*

Semester 2nd

Course Title: Dental Anatomy & Tooth Morphology	L	T	P	Cr
Course Code: BDH201	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Describe the anatomy of teeth, oral cavity, and supporting structures.
2. Differentiate between primary and permanent dentition based on morphology.
3. Identify various tooth surfaces, landmarks, and functional aspects.
4. Understand the chronology of tooth development and eruption.
5. Apply knowledge of tooth morphology in clinical and preventive dental practice.

Course Contents

UNIT-I **10 Hours**

- Definition and scope of dental anatomy.
- Oral cavity landmarks and anatomical terminology.
- Structure of teeth: enamel, dentin, pulp, cementum.
- Functions of teeth in mastication, speech, and esthetics

UNIT-II **10 Hours**

- Characteristics of primary dentition: anatomy and functions.
- Characteristics of permanent dentition: anterior and posterior teeth.
- Differences between deciduous and permanent teeth.
- Dental notation systems: FDI, Palmer, Universal.

UNIT-III **5 Hours**

- Morphological features of incisors, canines, premolars, and molars.
- Occlusal anatomy and variations.
- Clinical significance of tooth morphology in restorations and orthodontics.

UNIT-IV **5 Hours**

- Development of teeth: stages and processes.

- Chronology of eruption and shedding of teeth.
- Factors influencing eruption and anomalies.
- Clinical applications in pediatric and preventive dentistry.

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *WHEELER RC, ZHOU X. Wheeler's Dental Anatomy, Physiology and Occlusion. 11th ed. St. Louis: Elsevier; 2019.*
- *SURESH BS. Textbook of Dental Anatomy and Oral Physiology. 2nd ed. New Delhi: Jaypee Brothers; 2018.*
- *BHAT M. Textbook of Oral Anatomy, Histology and Embryology. 3rd ed. New Delhi: Jaypee Brothers; 2017.*
- *FEATHERSTONE JD, NELSON SJ. Dental Anatomy Coloring Book. 3rd ed. St. Louis: Elsevier; 2021.*
- *NORDIN G, HANNAN A. Anatomy of Orofacial Structures: A Comprehensive Approach. 9th ed. St. Louis: Elsevier; 2018.*
- *ROSS MH, PAWLINA W. Histology: A Text and Atlas with Correlated Cell and Molecular Biology. 8th ed. Philadelphia: Wolters Kluwer; 2020.*
- *HROMATKA R, HEINRICH R. Human Tooth Morphology: An Illustrated Guide. 2nd ed. Berlin: Quintessence Publishing; 2017.*
- *BHASKAR SN. Orban's Oral Histology and Embryology. 14th ed. New Delhi: Elsevier; 2019.*

Course Title: Oral Pathology & Dental Material	L	T	P	Cr
Course Code: BDH202	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the etiology, pathogenesis, and clinical features of common oral diseases.
2. Identify oral manifestations of systemic diseases through pathological changes.
3. Understand the basic properties and manipulation of dental materials.
4. Apply knowledge of dental materials in preventive and restorative dentistry.
5. Correlate pathological changes with appropriate diagnostic and therapeutic approaches.

Course Contents

UNIT-I **10 Hours**

- Introduction to Oral Pathology
- Developmental disturbances of teeth and jaws
- Dental caries: etiology, pathogenesis, and classification
- Pulpal and periapical pathology

UNIT-II **10 Hours**

- Oral manifestations of systemic diseases
- Precancerous lesions and conditions
- Oral cancer: etiology, clinical features, histopathology, diagnosis
- Common cysts and tumors of oral cavity

UNIT-III **5 Hours**

- Introduction to Dental Materials
- Properties of dental materials: physical, mechanical, and biological
- Gypsum products and impression materials

UNIT-IV **5 Hours**

- Restorative dental materials: amalgam, cements, composites
- Biocompatibility of dental materials

- Recent advances in dental materials

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Shafer WG, Hine MK, Levy BM. Shafer's Textbook of Oral Pathology. 9th ed. New Delhi: Elsevier; 2020.*
- *Rajendran R, Sivapathasundharam B. Shafer's Oral Pathology. 8th ed. New Delhi: Elsevier; 2016.*
- *Neville BW, Damm DD, Allen CM, Chi AC. Oral and Maxillofacial Pathology. 4th ed. St. Louis: Elsevier; 2016.*
- *Greenberg MS, Glick M, Ship JA. Burket's Oral Medicine. 12th ed. Shelton: PMPH USA; 2015.*
- *Anusavice KJ, Shen C, Rawls HR. Phillips' Science of Dental Materials. 12th ed. St. Louis: Elsevier; 2013.*
- *Craig RG, Powers JM. Restorative Dental Materials. 13th ed. St. Louis: Mosby; 2012.*
- *Kumar V, Abbas AK, Aster JC. Robbins Basic Pathology. 10th ed. Philadelphia: Elsevier; 2017.*

Course Title: Community Dentistry & Preventive Practice	L	T	P	Cr
Course Code: BDH203	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the principles of community dentistry and its role in public health.
2. Describe epidemiology of common oral diseases and methods of oral health surveys.
3. Apply preventive measures including oral hygiene instructions, fluorides, and pit & fissure sealants.
4. Understand school and community-based oral health programs.
5. Correlate preventive dentistry with national and global oral health strategies.

Course Contents

UNIT-I **10 Hours**

- Introduction to Community Dentistry: definition, scope, and importance
- Concepts of health, disease, and prevention
- Epidemiology of dental caries, periodontal disease, oral cancer
- Methods of epidemiological studies and oral health surveys

UNIT-II **10 Hours**

- Preventive dentistry: levels of prevention (primary, secondary, tertiary)
- Oral hygiene practices and patient motivation
- Fluoride in prevention of dental caries: systemic and topical applications
- Pit and fissure sealants, diet counseling for caries prevention

UNIT-III **5 Hours**

- School dental health programs
- Role of dental hygienist in community oral health promotion
- Health education methods and communication skills in dentistry

UNIT-IV **5 Hours**

- National Oral Health Programme (NOHP)
- WHO oral health initiatives and global oral health goals
- Community water fluoridation and other preventive strategies

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Park K. Park's Textbook of Preventive and Social Medicine. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.*
- *Hiremath SS. Textbook of Preventive and Community Dentistry. 3rd ed. New Delhi: Elsevier; 2019.*
- *Beaglehole R, Benzian H, Crail J, Mackay J. The Oral Health Atlas. 2nd ed. Geneva: FDI World Dental Federation; 2015.*
- *Murray JJ, Nunn JH, Steele JG. Prevention of Oral Disease. 4th ed. New York: Oxford University Press; 2003.*
- *Petersen PE. World Health Organization: Oral Health. Geneva: WHO; 2018.*
- *Burt BA, Eklund SA. Dentistry, Dental Practice, and the Community. 6th ed. St. Louis: Elsevier Saunders; 2005.*
- *Sheiham A, Watt RG. Oral Health Promotion: Effectiveness and Evidence. 2nd ed. London: World Health Organization; 2012.*

Course Title: Medical Terminology and Record Keeping	L	T	P	Cr
Course Code: BDH204	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Understand the structure and meaning of commonly used medical and dental terms.
2. Apply medical terminology in clinical, academic, and research communication.
3. Recognize abbreviations, acronyms, and symbols used in healthcare documentation.
4. Explain the importance of record keeping in dental and medical practice.
5. Maintain patient records ethically and legally in both manual and digital formats.

Course Contents

UNIT-I **10 Hours**

- Introduction to medical terminology: prefixes, suffixes, root words
- Common anatomical, pathological, and procedural terms in healthcare
- Terminology related to dentistry and allied health

UNIT-II **10 Hours**

- Medical and dental abbreviations, acronyms, and symbols
- Terminology in diagnostic imaging, pathology, and pharmacology
- Interpretation of prescriptions and investigation reports

UNIT-III **5 Hours**

- Principles of medical and dental record keeping
- Types of records: inpatient, outpatient, dental charts, radiographic records
- Legal and ethical considerations in record keeping

UNIT-IV **5 Hours**

- Electronic Health Records (EHR) and digital documentation
- Confidentiality, data protection, and consent in medical records

- Introduction to international coding systems (ICD, CPT, SNODENT)

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Chabner DE. The Language of Medicine. 12th ed. St. Louis: Elsevier; 2020.*
- *Ehrlich A, Schroeder C. Medical Terminology for Health Professions. 8th ed. Boston: Cengage Learning; 2016.*
- *Cohen BJ. Medical Terminology: An Illustrated Guide. 9th ed. Philadelphia: Wolters Kluwer; 2020.*
- *Payne WB, Carstens DS. Healthcare Record Keeping: Principles and Practices. 3rd ed. Chicago: AHIMA Press; 2015.*
- *WHO. International Classification of Diseases (ICD-11). Geneva: World Health Organization; 2019.*
- *American Dental Association. SNODENT: Systematized Nomenclature of Dentistry. Chicago: ADA; 2015.*
- *LaTour KM, Maki S. Health Information Management: Concepts, Principles, and Practice. 5th ed. Chicago: AHIMA Press; 2016.*

Course Title: Basic Fundamental of Dental	L	T	P	Cr
Course Code: BDH205	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Describe the scope and importance of dentistry in healthcare.
2. Explain the basic anatomy of teeth, oral cavity, and supporting structures.
3. Identify instruments and materials commonly used in dental practice.
4. Understand the fundamentals of infection control and sterilization in dentistry.
5. Demonstrate awareness of preventive oral health practices and patient education.

Course Contents

UNIT-I **10 Hours**

- Introduction to Dentistry: history, branches, and scope
- Anatomy of teeth and oral cavity: structure and function
- Dentition: types, eruption chronology, and dental formula

UNIT-II **10 Hours**

- Dental instruments: classification and uses (examination, operative, surgical, preventive)
- Dental materials: basics of amalgam, cements, composites, and impression materials
- Principles of cavity preparation and restorative procedures (overview)

UNIT-III **5 Hours**

- Infection control in dentistry: sterilization, disinfection, biomedical waste management
- Personal protective equipment (PPE) and aseptic techniques

UNIT-IV **5 Hours**

- Preventive dentistry: oral hygiene practices, fluorides, pit & fissure sealants
- Patient communication and motivation for oral health

- Basics of chairside assistance and ergonomics

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- Pickard HM, Kidd EAM, Fitzpatrick R, et al. *Pickard's Manual of Operative Dentistry*. 9th ed. Oxford: Oxford University Press; 2011.
- Kumar GS. *Orban's Oral Histology and Embryology*. 15th ed. New Delhi: Elsevier; 2020.
- Nallaswamy D. *Essentials of Conservative Dentistry*. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2017.
- Hargreaves KM, Berman LH. *Cohen's Pathways of the Pulp*. 11th ed. St. Louis: Elsevier; 2016.
- Anusavice KJ, Shen C, Rawls HR. *Phillips' Science of Dental Materials*. 12th ed. St. Louis: Elsevier; 2013.
- Wilkins EM. *Clinical Practice of the Dental Hygienist*. 12th ed. Philadelphia: Wolters Kluwer; 2016.
- Ibsen OAC, Phelan JA. *Oral Pathology for the Dental Hygienist*. 7th ed. St. Louis: Elsevier; 2017.

Course Title: Dental Anatomy & Tooth Morphology Practical	L	T	P	Cr.
Course Code: BDH206	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify various teeth based on morphology and anatomical features.
2. Demonstrate tooth carving techniques in wax blocks for primary and permanent teeth.
3. Understand anatomical landmarks of oral cavity and supporting structures.
4. Differentiate between maxillary and mandibular teeth using morphological characteristics.
5. Develop skills of observation, drawing, and recording tooth morphology for academic and clinical application.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of teeth: maxillary and mandibular, anterior and posterior.
- Study of anatomical landmarks of oral cavity (lips, palate, tongue, gingiva).
- Tooth carving in wax blocks:
  - Maxillary central incisor
  - Maxillary lateral incisor
  - Mandibular central incisor
  - Maxillary canine
  - Mandibular canine
  - Maxillary first premolar
  - Mandibular first premolar
  - Maxillary first molar
  - Mandibular first molar
- Drawing and labeling of tooth morphology (anterior & posterior).

- Study of chronology of eruption and dental formula using charts and models.
- Differentiation of primary and permanent dentition through specimens and models.
- Observation of prepared tooth models and extracted teeth to understand morphology.
- Maintenance of practical record book including diagrams and notes.

Suggested Readings

- *Wheeler RC. Wheeler's Dental Anatomy, Physiology and Occlusion. 11th ed. St. Louis: Elsevier; 2019.*
- *Ash MM, Nelson SJ. Wheeler's Dental Anatomy, Physiology and Occlusion. 10th ed. St. Louis: Saunders; 2014.*
- *Bhaskar SN. Orban's Oral Histology and Embryology. 15th ed. New Delhi: Elsevier; 2020.*
- *Nanci A. Ten Cate's Oral Histology: Development, Structure, and Function. 9th ed. St. Louis: Elsevier; 2018.*
- *Kumar GS. Textbook of Dental Anatomy and Oral Physiology. 3rd ed. New Delhi: Elsevier; 2018.*
- *Singh I. Textbook of Anatomy for Dental Students. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2014.*
- *Fuller JL, Denehy GE. Concise Dental Anatomy and Morphology. 4th ed. Iowa: University of Iowa Press; 2003.*

Course Title: Oral Pathology & Dental Material Practical	L	T	P	Cr.
Course Code: BDH207	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify normal and pathological oral tissues under microscope using prepared slides.
2. Demonstrate recognition of common oral lesions through clinical photographs and specimens.
3. Perform manipulation of basic dental materials including gypsum, cements, amalgam, and composites.
4. Differentiate physical and mechanical properties of commonly used dental materials.
5. Maintain practical records including microscopic sketches, lesion descriptions, and dental material experiments.

Course Content

List of Practical's / Experiments: 60 Hours

- Oral Pathology Practicals:
  - Study of normal oral histology slides (epithelium, connective tissue, salivary glands, teeth).
  - Microscopic identification of pathological conditions: dental caries, pulpitis, periapical pathology.
  - Histopathological study of oral precancerous lesions and oral cancer (using photomicrographs/slides).
  - Identification of common cysts and tumors of oral cavity (slides, models, photographs).
  - Clinical photographs of common oral diseases – description and interpretation.
  - Preparation of practical record book with microscopic sketches and lesion notes.
- Dental Material Practicals:
  - Manipulation and setting of gypsum products (plaster, stone).

- Mixing and setting of zinc oxide eugenol (ZOE) cement.
- Manipulation of glass ionomer cement (GIC).
- Mixing and condensation of dental amalgam.
- Handling of composite restorative materials – incremental placement technique.
- Demonstration of impression materials (alginate, elastomers).
- Testing properties of materials: setting time, compressive strength (demonstration).
- Maintenance of dental material practical record book with observations.

Suggested Readings

- *Shafer WG, Hine MK, Levy BM. Shafer's Textbook of Oral Pathology. 9th ed. New Delhi: Elsevier; 2020.*
- *Neville BW, Damm DD, Allen CM, Chi AC. Oral and Maxillofacial Pathology. 4th ed. St. Louis: Elsevier; 2016.*
- *Rajendran R, Sivapathasundharam B. Shafer's Oral Pathology. 8th ed. New Delhi: Elsevier; 2016.*
- *Anusavice KJ, Shen C, Rawls HR. Phillips' Science of Dental Materials. 12th ed. St. Louis: Elsevier; 2013.*
- *Craig RG, Powers JM. Restorative Dental Materials. 13th ed. St. Louis: Mosby; 2012.*
- *Nallaswamy D. Essentials of Dental Materials. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2017.*
- *Kumar V, Abbas AK, Aster JC. Robbins Basic Pathology. 10th ed. Philadelphia: Elsevier; 2017.*

Course Title: Community Dentistry & Preventive Practices Practical	L	T	P	Cr.
Course Code: BDH208	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Conduct basic oral health surveys and analyze collected data.
2. Demonstrate preventive measures such as oral hygiene instructions, fluoride application, and pit & fissure sealants.
3. Design and deliver oral health education programs for different community groups.
4. Participate in school and community-based dental health programs.
5. Maintain records and prepare reports of preventive and community dentistry activities.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification and demonstration of dental indices (DMFT, OHI-S, CPITN, Plaque Index).
- Conducting an oral health survey in a community/school setup.
- Preparation of survey proforma and data recording.
- Application of topical fluoride (gel/varnish) on models/patients.
- Demonstration of pit and fissure sealant placement on extracted teeth/models.
- Oral prophylaxis demonstration (scaling models or patients).
- Preparation and delivery of oral health education using charts, posters, and audiovisual aids.
- Conducting a dental health talk in a school/community setting.
- Group activity: role play for patient motivation and oral hygiene instruction.
- Visit to a rural/urban health center for community exposure.
- Preparation of a report on community dental health activities.

Suggested Readings

- *Park K. Park's Textbook of Preventive and Social Medicine. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.*
- *Hiremath SS. Textbook of Preventive and Community Dentistry. 3rd ed. New Delhi: Elsevier; 2019.*
- *Murray JJ, Nunn JH, Steele JG. Prevention of Oral Disease. 4th ed. Oxford: Oxford University Press; 2003.*
- *Burt BA, Eklund SA. Dentistry, Dental Practice, and the Community. 6th ed. St. Louis: Elsevier Saunders; 2005.*
- *Petersen PE. World Health Organization: Oral Health. Geneva: WHO; 2018.*
- *Beaglehole R, Benzian H, Crail J, Mackay J. The Oral Health Atlas. 2nd ed. Geneva: FDI World Dental Federation; 2015.*
- *Sheiham A, Watt RG. Oral Health Promotion: Effectiveness and Evidence. 2nd ed. London: World Health Organization; 2012.*

Course Title: Medical Terminology and Record Keeping Practical	L	T	P	Cr.
Course Code: BDH209	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Apply medical and dental terminology in clinical documentation.
2. Recognize and correctly use abbreviations, acronyms, and symbols in patient records.
3. Prepare and maintain different types of patient records (manual and electronic).
4. Demonstrate skills in prescription reading and report interpretation.
5. Maintain records ethically, following confidentiality and legal guidelines.

Course Content

List of Practical's / Experiments: 60 Hours

- Introduction to medical terminology – exercises in prefixes, suffixes, and root words.
- Identification and usage of abbreviations and acronyms in medical and dental practice.
- Writing case histories using correct terminology.
- Preparation of outpatient and inpatient records.
- Preparation of dental charts and periodontal charts.
- Interpretation of medical and dental prescriptions.
- Reading and interpretation of diagnostic reports (hematology, radiology, pathology).
- Preparation of referral letters using proper terminology.
- Exposure to Electronic Health Records (EHR) – data entry demonstration.
- Record management: filing, indexing, and retrieval of records.
- Practical on confidentiality and ethical handling of patient data.

- Maintenance of practical record book with terminology exercises, sample records, and case histories.

Suggested Readings

- *Chabner DE. The Language of Medicine. 12th ed. St. Louis: Elsevier; 2020.*
- *Cohen BJ. Medical Terminology: An Illustrated Guide. 9th ed. Philadelphia: Wolters Kluwer; 2020.*
- *Ehrlich A, Schroeder C. Medical Terminology for Health Professions. 8th ed. Boston: Cengage Learning; 2016.*
- *Payne WB, Carstens DS. Healthcare Record Keeping: Principles and Practices. 3rd ed. Chicago: AHIMA Press; 2015.*
- *LaTour KM, Maki S. Health Information Management: Concepts, Principles, and Practice. 5th ed. Chicago: AHIMA Press; 2016.*
- *WHO. International Classification of Diseases (ICD-11). Geneva: World Health Organization; 2019.*
- *American Dental Association. SNODENT: Systematized Nomenclature of Dentistry. Chicago: ADA; 2015.*

Course Title: Basic Fundamental of Dental Practical	L	T	P	Cr.
Course Code: BDH210	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify basic dental instruments and their uses in clinical practice.
2. Demonstrate handling and maintenance of dental equipment and instruments.
3. Perform basic infection control and sterilization techniques in dentistry.
4. Recognize tooth morphology and eruption chronology through models and specimens.
5. Assist in simple preventive and restorative dental procedures under supervision.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of basic dental instruments (examination set, extraction set, restorative set).
- Demonstration of chairside assistance and four-handed dentistry principles.
- Introduction to dental materials – mixing and manipulation of plaster, alginate, and cements.
- Demonstration of sterilization and disinfection methods in the dental operatory.
- Proper donning and doffing of PPE and hand hygiene practices.
- Study of dental charts and dental formula using models.
- Chronology of eruption and identification of primary vs permanent dentition.
- Carving of simple tooth morphology on wax blocks (central incisor, canine, molar).
- Demonstration of cavity preparation and filling on typodont models.
- Patient education models – teaching oral hygiene methods (tooth brushing, flossing).

- Biomedical waste management demonstration in dental clinics.
- Maintenance of a practical record book including drawings, notes, and observations.

Suggested Readings

- *Pickard HM, Kidd EAM, Fitzpatrick R, et al. Pickard's Manual of Operative Dentistry. 9th ed. Oxford: Oxford University Press; 2011.*
- *Kumar GS. Textbook of Dental Anatomy and Oral Physiology. 3rd ed. New Delhi: Elsevier; 2018.*
- *Nallaswamy D. Essentials of Conservative Dentistry. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2017.*
- *Anusavice KJ, Shen C, Rawls HR. Phillips' Science of Dental Materials. 12th ed. St. Louis: Elsevier; 2013.*
- *Wilkins EM. Clinical Practice of the Dental Hygienist. 12th ed. Philadelphia: Wolters Kluwer; 2016.*
- *Ibsen OAC, Phelan JA. Oral Pathology for the Dental Hygienist. 7th ed. St. Louis: Elsevier; 2017.*
- *Hargreaves KM, Berman LH. Cohen's Pathways of the Pulp. 11th ed. St. Louis: Elsevier; 2016.*

Course Title: Environmental Sciences	L	T	P	Cr
Course Code: BDH211	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the structure and functions of ecosystems and their importance to life.
2. Identify different types of natural resources and understand issues related to their sustainable use.
3. Describe environmental pollution, its sources, effects, and control measures.
4. Understand biodiversity, its conservation, and related laws.
5. Appreciate the role of individuals and communities in environmental protection and sustainable development.

Course Contents

UNIT-I **10 Hours**

- Introduction to environment: components and importance
- Ecosystems: concept, structure, and function
- Types of ecosystems: forest, grassland, desert, aquatic
- Energy flow and ecological pyramids

UNIT-II **10 Hours**

- Natural resources: renewable and non-renewable
- Water resources: use and overexploitation, dams, conflicts
- Mineral resources, food resources, energy resources, land resources
- Sustainable resource management

UNIT-III **5 Hours**

- Biodiversity and conservation: types, values, threats
- Hotspots of biodiversity in India
- In-situ and ex-situ conservation methods

UNIT-IV **5 Hours**

- Environmental pollution: air, water, soil, noise, nuclear hazards – sources, effects, and control measures

- Global environmental issues: climate change, global warming, ozone depletion
- Environmental legislation in India: Environment Protection Act, Wildlife Protection Act, Forest Conservation Act
- Role of information technology in environment and human health

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Miller GT, Spoolman SE. Environmental Science. 15th ed. Boston: Cengage Learning; 2018.*
- *Botkin DB, Keller EA. Environmental Science: Earth as a Living Planet. 9th ed. Hoboken: Wiley; 2014.*
- *Odum EP, Barrett GW. Fundamentals of Ecology. 5th ed. Belmont: Cengage Learning; 2005.*
- *Sharma PD. Ecology and Environment. 14th ed. Meerut: Rastogi Publications; 2017.*
- *Kaushik A, Kaushik CP. Perspectives in Environmental Studies. 5th ed. New Delhi: New Age International; 2018.*
- *Townsend CR, Begon M, Harper JL. Essentials of Ecology. 4th ed. Oxford: Wiley-Blackwell; 2013.*
- *Rao MN, Datta AK. Wastewater Treatment. 3rd ed. New Delhi: Oxford & IBH Publishing; 2017.*

Course Title: First Aid	L	T	P	Cr
Course Code: BDH212	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the principles and scope of first aid in emergency care.
2. Assess emergency situations and provide immediate care until professional help arrives.
3. Demonstrate first aid management for common injuries and medical emergencies.
4. Apply cardiopulmonary resuscitation (CPR) and basic life support techniques.
5. Maintain a systematic record of first aid given and ensure safety during emergencies.

Course Contents

UNIT-I **10 Hours**

- Introduction to First Aid: principles, aims, scope, and limitations
- First aid kit: contents and uses
- Initial assessment of patient: primary survey, secondary survey, ABC of first aid
- First aid for fainting, shock, and unconsciousness

UNIT-II **10 Hours**

- First aid in bleeding and wounds: types, control of bleeding, bandaging techniques
- First aid for burns, scalds, and electric shock
- Fractures and dislocations: immobilization and splinting methods
- First aid for poisoning, bites, and stings (snake, insect, dog bite)

UNIT-III **5 Hours**

- First aid in common medical emergencies: heart attack, stroke, asthma, seizures, hypoglycemia
- Basic life support (BLS) – adult and child
- Cardiopulmonary resuscitation (CPR) demonstration

UNIT-IV **5 Hours**

- First aid in disaster and mass casualty situations
- Transport of injured persons: methods and precautions
- Legal and ethical aspects of first aid
- **Importance of community training and awareness in first aid**

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *American Red Cross. First Aid/CPR/AED Participant's Manual. Washington, DC: StayWell; 2016.*
- *St John Ambulance, British Red Cross, St Andrew's First Aid. First Aid Manual. 11th ed. London: Dorling Kindersley; 2021.*
- *Basavanthappa BT. First Aid for Nurses. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2018.*
- *Tintinalli JE, Ma OJ, Yealy DM. Tintinalli's Emergency Medicine: A Comprehensive Study Guide. 9th ed. New York: McGraw-Hill Education; 2020.*
- *American Heart Association. Basic Life Support (BLS) Provider Manual. Dallas: AHA; 2020.*
- *Knight B. Immediate First Aid. 10th ed. London: Hodder Education; 2015.*
- *WHO. Emergency and Essential Surgical Care: First Aid Trauma Care Modules. Geneva: World Health Organization; 2011.*

Semester 3rd

Course Title: Periodontology & Preventive Dentistry	L	T	P	Cr
Course Code: BDH301	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Describe the anatomy, physiology, and pathology of the periodontium.
2. Explain the etiology, clinical features, and progression of periodontal diseases.
3. Demonstrate knowledge of preventive strategies in dentistry, including oral hygiene methods and prophylaxis.
4. Correlate systemic health with periodontal health.
5. Apply preventive and basic therapeutic approaches for maintaining periodontal health.

Course Contents

UNIT-I **10 Hours**

- Introduction to periodontology: scope and importance
- Anatomy of the periodontium (gingiva, periodontal ligament, cementum, alveolar bone)
- Classification of periodontal diseases
- Gingivitis: etiology, clinical features, and management

UNIT-II **10 Hours**

- Periodontitis: types, etiology, pathogenesis, and progression
- Clinical features and diagnosis of periodontal diseases
- Host response, risk factors (systemic and local), and microbial role
- Indices used in periodontology (Plaque Index, Gingival Index, CPITN)

UNIT-III **5 Hours**

- Preventive periodontology: scaling, root planing, polishing
- Oral hygiene aids: toothbrushes, interdental cleaning devices, mouth rinses
- Patient education and motivation techniques

UNIT-IV **5 Hours**

- Periodontal–systemic interrelationship (diabetes, cardiovascular disease, pregnancy)
- Chemotherapeutic agents in periodontal therapy
- Recent advances in preventive periodontology
- National and global perspectives on periodontal health promotion

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- Carranza FA, Newman MG, Takei H, Klokkevold PR. *Carranza's Clinical Periodontology*. 13th ed. St. Louis: Elsevier; 2019.
- Lindhe J, Lang NP, Karring T. *Clinical Periodontology and Implant Dentistry*. 6th ed. Oxford: Wiley-Blackwell; 2015.
- Newman MG, Takei H, Klokkevold PR, Carranza FA. *Carranza's Clinical Periodontology: Expert Consult*. 12th ed. St. Louis: Elsevier; 2015.
- Wilson TG, Kornman KS. *Fundamentals of Periodontics*. 2nd ed. Chicago: Quintessence Publishing; 2003.
- Wilkins EM. *Clinical Practice of the Dental Hygienist*. 12th ed. Philadelphia: Wolters Kluwer; 2016.
- Lang NP, Bartold PM. *Periodontology and Implant Dentistry*. 2nd ed. Berlin: Quintessence Publishing; 2018.
- Slots J, Ting M. *Periodontics: Medicine, Surgery, and Implants*. St. Louis: Mosby; 2007.

Course Title: Dental Radiology & Imaging Basics	L	T	P	Cr
Course Code: BDH302	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the basic principles of radiology and imaging in dentistry.
2. Understand the properties of X-rays and their interaction with matter.
3. Describe different intraoral and extraoral radiographic techniques.
4. Identify normal anatomical landmarks and basic pathology on dental radiographs.
5. Apply radiation protection and safety measures in dental radiology.

Course Contents

UNIT-I **10 Hours**

- Introduction to dental radiology: history, scope, importance
- Physics of X-rays: production, properties, interaction with matter
- X-ray equipment: dental X-ray machine components and functions
- Image receptors: films, intensifying screens, and digital sensors

UNIT-II **10 Hours**

- Intraoral radiographic techniques: periapical, bitewing, occlusal
- Extraoral radiographic techniques: panoramic, lateral cephalogram, skull radiographs
- Principles of image formation, processing of films, digital radiography basics
- Radiographic errors and their correction

UNIT-III **5 Hours**

- Normal anatomical landmarks in maxilla and mandible on radiographs
- Introduction to interpretation of dental radiographs
- Common pathologies visible on radiographs (caries, periapical pathology, periodontal bone loss)

UNIT-IV **5 Hours**

- Radiation hazards and biological effects of radiation

- Principles of radiation protection: ALARA, shielding, film holders, lead aprons
- Regulatory guidelines and safety protocols in dental radiology
- Recent advances: CBCT (Cone Beam Computed Tomography), digital imaging

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *White SC, Pharoah MJ. Oral Radiology: Principles and Interpretation. 8th ed. St. Louis: Elsevier; 2019.*
- *Iannucci JM, Howerton LJ. Dental Radiography: Principles and Techniques. 6th ed. St. Louis: Elsevier; 2022.*
- *Goaz PW, White SC. Oral Radiology: Principles and Interpretation. 4th ed. St. Louis: Mosby; 1994.*
- *Whaites E, Drage N. Essentials of Dental Radiography and Radiology. 6th ed. London: Elsevier; 2020.*
- *Langland OE, Langlais RP, Preece JW. Principles of Dental Imaging. 2nd ed. Philadelphia: Lippincott Williams & Wilkins; 2002.*
- *Farman AG. Oral and Maxillofacial Imaging. 2nd ed. St. Louis: Mosby; 2008.*
- *Miles DA, Van Dis ML, Williamson GF, Jensen CW. Radiographic Imaging for the Dental Team. 6th ed. St. Louis: Elsevier; 2020.*

Course Title: Nutrition & General Health in Dentistry	L	T	P	Cr
Course Code: BDH303	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the principles of human nutrition and their relation to oral and general health.
2. Describe the role of macronutrients and micronutrients in growth, development, and oral health.
3. Assess the impact of nutrition on dental caries, periodontal disease, and oral mucosal conditions.
4. Correlate systemic diseases with nutritional deficiencies or imbalances.
5. Counsel patients on diet modification for maintaining optimal oral and general health.

Course Contents

UNIT-I **10 Hours**

- Introduction to nutrition: concepts and importance in dentistry
- Macronutrients: carbohydrates, proteins, fats – digestion, absorption, functions
- Micronutrients: vitamins and minerals – role in growth and oral health
- Balanced diet and Recommended Dietary Allowances (RDA)

UNIT-II **10 Hours**

- Nutrition and oral health:
  - Role of diet in dental caries and periodontal disease
  - Impact of sugar and fermentable carbohydrates
  - Role of calcium, vitamin D, and fluoride in dental hard tissues
- Malnutrition: undernutrition, protein-energy malnutrition, obesity

UNIT-III **5 Hours**

- Nutritional deficiencies and oral manifestations:
  - Vitamin deficiencies (A, B-complex, C, D, K)
  - Iron and iodine deficiencies

- Clinical features and management in dental practice

UNIT-IV **5 Hours**

- Nutrition in special conditions: pregnancy, lactation, childhood, geriatric age
- Dietary counseling for oral health promotion
- Lifestyle, diet, and systemic diseases: diabetes, cardiovascular disease, osteoporosis
- Preventive strategies through nutrition education in dentistry

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Shetty PS. Nutrition, Diet and Oral Health. Oxford: Oxford University Press; 2019.*
- *Whitney E, Rolfes SR. Understanding Nutrition. 15th ed. Boston: Cengage Learning; 2022.*
- *Gopalan C, Rama Sastri BV, Balasubramanian SC. Nutritive Value of Indian Foods. Hyderabad: ICMR-National Institute of Nutrition; 2017.*
- *Mahan LK, Raymond JL. Krause's Food and the Nutrition Care Process. 15th ed. St. Louis: Elsevier; 2021.*
- *Touger-Decker R, Mobley CC. Diet and Nutrition in Oral Health. 3rd ed. Philadelphia: Wolters Kluwer; 2014.*
- *Papas AS, Palmer CA, Roussouw L. Nutrition and Oral Medicine. 2nd ed. New York: Springer; 2014.*
- *Gropper SS, Smith JL, Carr TP. Advanced Nutrition and Human Metabolism. 7th ed. Boston: Cengage Learning; 2017.*

Course Title: Local Anaesthesia and Pain Management	L	T	P	Cr
Course Code: BDH304	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the basic principles, pharmacology, and techniques of local anaesthesia in dentistry.
2. Identify the anatomy relevant to administration of dental local anaesthesia.
3. Demonstrate knowledge of different agents used for pain control and their mechanisms of action.
4. Recognize complications of local anaesthesia and methods for their prevention and management.
5. Apply pain management strategies in dental clinical practice.

Course Contents

UNIT-I **10 Hours**

- Introduction to pain: physiology and types
- History and development of local anaesthesia in dentistry
- Pharmacology of local anaesthetic agents: classification, mechanism of action, metabolism
- Anatomy of maxillary and mandibular nerve supply relevant to local anaesthesia

UNIT-II **10 Hours**

- Techniques of administration:
  - Infiltration anaesthesia
  - Nerve block anaesthesia (inferior alveolar, posterior superior alveolar, mental, incisive, etc.)
- Armamentarium for local anaesthesia: syringes, needles, cartridges
- Vasoconstrictors: role, types, and contraindications
- Clinical applications in dentistry

UNIT-III **5 Hours**

- Complications of local anaesthesia: systemic toxicity, allergic reactions, needle breakage, hematoma, trismus
- Prevention and management of complications
- Local and systemic factors affecting anaesthetic efficacy

UNIT-IV **5 Hours**

- Pain management strategies: pharmacological (NSAIDs, opioids) and non-pharmacological (behavioral, psychological approaches)
- Sedation methods in dentistry (overview)
- Recent advances in dental anaesthesia and pain management
- Ethical and medico-legal aspects of pain management

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Malamed SF. Handbook of Local Anesthesia. 7th ed. St. Louis: Elsevier; 2019.*
- *Reed KL, Malamed SF, Fonner AM. Local Anesthesia for the Dental Hygienist. 2nd ed. St. Louis: Elsevier; 2020.*
- *Meechan JG. Practical Dental Local Anaesthesia. 2nd ed. London: Quintessence Publishing; 2011.*
- *Hargreaves KM, Berman LH. Cohen's Pathways of the Pulp. 11th ed. St. Louis: Elsevier; 2016.*
- *Stanley F, Reed KL. Pain Control for the Dental Team. 5th ed. St. Louis: Elsevier; 2017.*
- *Yagiela JA, Dowd FJ, Johnson BS, Mariotti AJ, Neidle EA. Pharmacology and Therapeutics for Dentistry. 7th ed. St. Louis: Elsevier; 2017.*
- *Haas DA. Anesthesia Complications in the Dental Office. Hoboken: Wiley-Blackwell; 2012.*

Course Title: Community Dental Health	L	T	P	Cr
Course Code: BDH305	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the principles of dental public health and community dentistry.
2. Describe epidemiology of oral diseases and their public health implications.
3. Apply preventive measures and health promotion strategies in community settings.
4. Plan, conduct, and evaluate community oral health programs.
5. Understand national and global oral health initiatives for improving population health.

Course Contents

UNIT-I **10 Hours**

- Introduction to community dentistry and dental public health
- Concepts of health and disease in dentistry
- Epidemiology: definition, aims, methods, and importance in oral health
- Epidemiology of dental caries, periodontal diseases, malocclusion, oral cancer

UNIT-II **10 Hours**

Preventive dentistry in community health: fluorides, pit & fissure sealants, oral hygiene practices

Oral health education and communication methods

School dental health programs: planning and implementation

Role of dental hygienist in community oral health promotion

UNIT-III **5 Hours**

- Oral health surveys: types, methods, and recording forms
- Dental indices (DMFT, OHI-S, CPITN, Plaque Index)
- Statistical basics in community health: mean, median, prevalence, incidence

UNIT-IV **5 Hours**

- National Oral Health Programme (NOHP) and its components
- WHO oral health initiatives and global oral health goals
- Public health laws and policies related to dentistry
- Community participation and intersectoral coordination in oral health care

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Park K. Park's Textbook of Preventive and Social Medicine. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.*
- *Hiremath SS. Textbook of Preventive and Community Dentistry. 3rd ed. New Delhi: Elsevier; 2019.*
- *Burt BA, Eklund SA. Dentistry, Dental Practice, and the Community. 6th ed. St. Louis: Elsevier Saunders; 2005.*
- *Murray JJ, Nunn JH, Steele JG. Prevention of Oral Disease. 4th ed. Oxford: Oxford University Press; 2003.*
- *Petersen PE. World Health Organization: Oral Health. Geneva: WHO; 2018.*
- *Beaglehole R, Benzian H, Crail J, Mackay J. The Oral Health Atlas. 2nd ed. Geneva: FDI World Dental Federation; 2015.*
- *Sheiham A, Watt RG. Oral Health Promotion: Effectiveness and Evidence. 2nd ed. London: World Health Organization; 2012.*

Course Title: Periodontology & Preventive Dentistry Practical	L	T	P	Cr.
Course Code: BDH306	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify periodontal instruments and demonstrate their use in clinical settings.
2. Perform basic periodontal diagnostic procedures such as probing and charting.
3. Demonstrate scaling, polishing, and preventive oral hygiene techniques on models and patients.
4. Educate and motivate patients regarding oral hygiene maintenance and preventive care.
5. Maintain a detailed practical record book including indices, findings, and procedures performed.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of periodontal instruments (scalers, curettes, probes, explorers, ultrasonic devices).
- Demonstration and practice of periodontal probing and pocket depth measurement.
- Charting of gingival and periodontal status using indices (Plaque Index, Gingival Index, CPITN).
- Demonstration of oral prophylaxis procedures – scaling and polishing on typodont and patients.
- Root planing techniques (demonstration).
- Patient education on oral hygiene practices (tooth brushing methods, interdental cleaning, flossing).
- Demonstration of chemotherapeutic plaque control agents (mouth rinses, dentifrices).

- Observation and recording of common periodontal conditions in patients.
- Application of preventive measures such as fluoride and desensitizing agents.
- Clinical case discussions on preventive and periodontal care.
- Group activity: role-play on patient motivation and plaque control education.
- Maintenance of practical record book with drawings, charts, and case reports.

Suggested Readings

- Carranza FA, Newman MG, Takei H, Klokkevold PR. *Carranza's Clinical Periodontology*. 13th ed. St. Louis: Elsevier; 2019.
- Lindhe J, Lang NP, Karring T. *Clinical Periodontology and Implant Dentistry*. 6th ed. Oxford: Wiley-Blackwell; 2015.
- Wilkins EM. *Clinical Practice of the Dental Hygienist*. 12th ed. Philadelphia: Wolters Kluwer; 2016.
- Wilson TG, Kornman KS. *Fundamentals of Periodontics*. 2nd ed. Chicago: Quintessence Publishing; 2003.
- Newman MG, Takei H, Klokkevold PR, Carranza FA. *Carranza's Clinical Periodontology: Expert Consult*. 12th ed. St. Louis: Elsevier; 2015.
- Slots J, Ting M. *Periodontics: Medicine, Surgery, and Implants*. St. Louis: Mosby; 2007.
- Lang NP, Bartold PM. *Periodontology and Implant Dentistry*. 2nd ed. Berlin: Quintessence Publishing; 2018.

Course Title: Dental Radiology & Imaging Basics Practical	L	T	P	Cr.
Course Code: BDH307	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify and operate basic dental X-ray equipment safely.
2. Demonstrate correct intraoral radiographic techniques (periapical, bitewing, occlusal).
3. Understand extraoral radiographic procedures (panoramic, cephalometric).
4. Recognize and correct common radiographic errors.
5. Interpret normal anatomical landmarks and basic pathologies on dental radiographs.
6. Apply radiation protection and infection control protocols in radiology practice.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of parts of dental X-ray machine and image receptors (films, sensors, PSP plates).
- Darkroom setup and film processing techniques (manual & automatic).
- Digital radiography demonstration – intraoral sensor and PSP systems.
- Periapical radiographs using paralleling and bisecting angle techniques.
- Bitewing radiographs – technique and clinical application.
- Occlusal radiographs for anterior and posterior regions.
- Panoramic radiography (OPG) – demonstration and patient positioning.
- Lateral cephalogram – demonstration of head positioning and tracing basics.

- Identification of normal anatomical landmarks on intraoral and extraoral radiographs.
- Recognition of common radiographic errors and their correction.
- Basic interpretation of caries, periapical pathology, and periodontal bone loss.
- Radiation safety measures: use of lead aprons, thyroid collars, collimation, film holders.
- Infection control in dental radiology.
- Maintenance of a practical record book including radiographs, drawings, and reports.

Suggested Readings

- White SC, Pharoah MJ. *Oral Radiology: Principles and Interpretation*. 8th ed. St. Louis: Elsevier; 2019.
- Iannucci JM, Howerton LJ. *Dental Radiography: Principles and Techniques*. 6th ed. St. Louis: Elsevier; 2022.
- Whaites E, Drage N. *Essentials of Dental Radiography and Radiology*. 6th ed. London: Elsevier; 2020.
- Langland OE, Langlais RP, Preece JW. *Principles of Dental Imaging*. 2nd ed. Philadelphia: Lippincott Williams & Wilkins; 2002.
- Miles DA, Van Dis ML, Williamson GF, Jensen CW. *Radiographic Imaging for the Dental Team*. 6th ed. St. Louis: Elsevier; 2020.
- Farman AG. *Oral and Maxillofacial Imaging*. 2nd ed. St. Louis: Mosby; 2008.
- Goaz PW, White SC. *Oral Radiology: Principles and Interpretation*. 4th ed. St. Louis: Mosby; 1994.

Course Title: Nutrition & General Health in Dentistry Practical	L	T	P	Cr.
Course Code: BDH308	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Assess nutritional status through dietary surveys and anthropometric measurements.
2. Identify the relationship between nutrition and oral diseases (caries, periodontal disease, oral mucosal conditions).
3. Demonstrate diet counseling techniques for different age groups and systemic conditions.
4. Analyze dietary patterns using food composition tables and RDA guidelines.
5. Prepare nutrition education materials for patient and community health promotion.

Course Content

List of Practical's / Experiments: 60 Hours

- Introduction to dietary survey methods (24-hour recall, food frequency questionnaire).
- Calculation of nutrient intake using ICMR food composition tables.
- Preparation of balanced diet plans for:
  - Children
  - Pregnant and lactating women
  - Geriatric patients
  - Patients with diabetes, hypertension, and obesity
- Case study: diet analysis of a patient with dental caries.
- Case study: diet modification for a patient with periodontal disease.
- Assessment of nutritional deficiencies with oral manifestations (e.g., glossitis, angular cheilitis, enamel hypoplasia).
- Anthropometric measurements: height, weight, BMI, waist–hip ratio.
- Demonstration of nutritional counseling techniques for oral health.

- Designing posters, charts, or leaflets on nutrition and oral health education.
- Group activity: role-play on dietary counseling for preventive dentistry.
- Community visit: dietary survey and health education in school/health center.
- Maintenance of a practical record book including diet charts, case studies, and educational material.

Suggested Readings

- *Whitney E, Rolfes SR. Understanding Nutrition. 15th ed. Boston: Cengage Learning; 2022.*
- *Gopalan C, Rama Sastri BV, Balasubramanian SC. Nutritive Value of Indian Foods. Hyderabad: ICMR-National Institute of Nutrition; 2017.*
- *Mahan LK, Raymond JL. Krause's Food and the Nutrition Care Process. 15th ed. St. Louis: Elsevier; 2021.*
- *Shetty PS. Nutrition, Diet and Oral Health. Oxford: Oxford University Press; 2019.*
- *Touger-Decker R, Mobley CC. Diet and Nutrition in Oral Health. 3rd ed. Philadelphia: Wolters Kluwer; 2014.*
- *Papas AS, Palmer CA, Roussouw L. Nutrition and Oral Medicine. 2nd ed. New York: Springer; 2014.*
- *Gropper SS, Smith JL, Carr TP. Advanced Nutrition and Human Metabolism. 7th ed. Boston: Cengage Learning; 2017.*

Course Title: Local Anaesthesia and Pain Management Practical	L	T	P	Cr.
Course Code: BDH309	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify armamentarium used in dental local anaesthesia.
2. Demonstrate preparation and handling of syringes, needles, and cartridges safely.
3. Perform basic infiltration and block anaesthesia techniques on models/simulated patients.
4. Recognize and manage common complications associated with local anaesthesia.
5. Apply pain management strategies, including pharmacological and non-pharmacological methods, in clinical situations.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of local anaesthetic armamentarium (syringes, needles, cartridges, aspirating syringes).
- Preparation and sterilization of equipment for administering local anaesthesia.
- Practice of infiltration anaesthesia technique on models/simulation dummies.
- Practice of inferior alveolar nerve block technique (demonstration and supervised practice).
- Practice of posterior superior alveolar, mental, and incisive nerve blocks (demonstration).
- Surface anaesthesia and intraligamentary injections (demonstration).
- Simulation of aspiration technique to prevent intravascular injection.
- Management of complications: needle breakage, hematoma, trismus, syncope (case-based demonstration).

- Recording medical history and identifying contraindications for local anaesthesia.
- Pharmacological pain management: demonstration of NSAIDs, opioids, and adjuvant drugs.
- Non-pharmacological methods of pain control: relaxation techniques, behavioral approaches.
- Maintenance of practical record book including diagrams, techniques, and case notes.

Suggested Readings

- *Malamed SF. Handbook of Local Anesthesia. 7th ed. St. Louis: Elsevier; 2019.*
- *Reed KL, Malamed SF, Fonner AM. Local Anesthesia for the Dental Hygienist. 2nd ed. St. Louis: Elsevier; 2020.*
- *Meechan JG. Practical Dental Local Anaesthesia. 2nd ed. London: Quintessence Publishing; 2011.*
- *Yagiela JA, Dowd FJ, Johnson BS, Mariotti AJ, Neidle EA. Pharmacology and Therapeutics for Dentistry. 7th ed. St. Louis: Elsevier; 2017.*
- *Haas DA. Anesthesia Complications in the Dental Office. Hoboken: Wiley-Blackwell; 2012.*
- *Stanley F, Reed KL. Pain Control for the Dental Team. 5th ed. St. Louis: Elsevier; 2017.*
- *Hargreaves KM, Berman LH. Cohen's Pathways of the Pulp. 11th ed. St. Louis: Elsevier; 2016.*

Course Title: Community Dental Health Practical	L	T	P	Cr.
Course Code: BDH310	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Conduct oral health surveys and apply dental indices in community settings.
2. Record and analyze epidemiological data for oral health assessment.
3. Demonstrate preventive dentistry procedures in schools and community health centers.
4. Design and deliver oral health education sessions using different communication methods.
5. Prepare reports and maintain records of community dental health programs.

Course Content

List of Practical's / Experiments: 60 Hours

- Introduction to survey proformas and community oral health records.
- Training in dental indices: DMFT, OHI-S, CPITN, Plaque Index.
- Conducting oral health surveys in school/community setups.
- Data collection, tabulation, and statistical analysis (mean, prevalence, incidence).
- Preparation and presentation of survey reports.
- Demonstration of preventive procedures: fluoride application (gel/varnish), pit & fissure sealants.
- Oral prophylaxis demonstration (scaling/polishing on models/patients).
- Preparation of oral health education material: charts, leaflets, posters, PowerPoint presentations.
- Health talk/demonstration in a school or community center.
- Role play on patient motivation and oral hygiene instruction.
- Participation in school dental health programs and camps.

- Maintenance of practical record book with survey forms, indices, case reports, and education materials.

Suggested Readings

- *Park K. Park's Textbook of Preventive and Social Medicine. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.*
- *Hiremath SS. Textbook of Preventive and Community Dentistry. 3rd ed. New Delhi: Elsevier; 2019.*
- *Burt BA, Eklund SA. Dentistry, Dental Practice, and the Community. 6th ed. St. Louis: Elsevier Saunders; 2005.*
- *Murray JJ, Nunn JH, Steele JG. Prevention of Oral Disease. 4th ed. Oxford: Oxford University Press; 2003.*
- *Petersen PE. World Health Organization: Oral Health. Geneva: WHO; 2018.*
- *Beaglehole R, Benzian H, Crail J, Mackay J. The Oral Health Atlas. 2nd ed. Geneva: FDI World Dental Federation; 2015.*
- *Sheiham A, Watt RG. Oral Health Promotion: Effectiveness and Evidence. 2nd ed. London: World Health Organization; 2012.*

Course Title: Pharmacology for Dental Hygienists	L	T	P	Cr
Course Code: BDH311	3	0	0	3

Total Hours 45

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the general principles of pharmacology, including pharmacokinetics and pharmacodynamics.
2. Describe commonly used drugs in dentistry and their mechanisms of action, indications, contraindications, and side effects.
3. Identify drug interactions relevant to dental practice.
4. Demonstrate rational and safe use of drugs in dental hygiene practice.
5. Correlate pharmacological knowledge with clinical decision-making and patient care.

Course Contents

UNIT-I **15 Hours**

- General pharmacology: scope, importance in dentistry
- Routes of drug administration
- Pharmacokinetics: absorption, distribution, metabolism, excretion
- Pharmacodynamics: drug–receptor interaction, dose-response curves
- Adverse drug reactions, drug allergies, and toxicity

UNIT-II **10 Hours**

- Drugs acting on central nervous system: sedatives, hypnotics, anxiolytics
- Analgesics: NSAIDs, opioids – indications and dental considerations
- Local anaesthetics: pharmacology, mechanism of action, toxicity, interactions
- General anaesthetics: introduction and dental relevance

UNIT-III **10 Hours**

- Antimicrobial agents in dentistry: antibiotics, antifungals, antivirals
- Chemoprophylaxis in dentistry (infective endocarditis, immunocompromised patients)
- Antiseptics and disinfectants used in dentistry

- Drug resistance and rational antibiotic use

UNIT-IV **10 Hours**

- Drugs affecting cardiovascular and respiratory systems: antihypertensives, anticoagulants, bronchodilators (dental considerations)
- Drugs for endocrine disorders: insulin, corticosteroids, thyroid drugs
- Drugs used in emergency conditions in dental practice (syncope, anaphylaxis, angina, asthma)
- Recent advances and emerging trends in dental pharmacology

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Tripathi KD. Essentials of Medical Pharmacology. 9th ed. New Delhi: Jaypee Brothers Medical Publishers; 2019.*
- *Rang HP, Ritter JM, Flower RJ, Henderson G. Rang and Dale's Pharmacology. 9th ed. London: Elsevier; 2020.*
- *Yagiela JA, Dowd FJ, Johnson BS, Mariotti AJ, Neidle EA. Pharmacology and Therapeutics for Dentistry. 7th ed. St. Louis: Elsevier; 2017.*
- *Brunton LL, Hilal-Dandan R, Knollmann BC. Goodman & Gilman's The Pharmacological Basis of Therapeutics. 13th ed. New York: McGraw-Hill; 2018.*
- *Bennett PN, Brown MJ, Sharma P. Clinical Pharmacology. 12th ed. London: Elsevier; 2017.*
- *Katzung BG, Trevor AJ. Basic and Clinical Pharmacology. 15th ed. New York: McGraw-Hill; 2021.*
- *Reiss AB, Kelly MT. Pharmacology for Dentistry. 2nd ed. New Delhi: CBS Publishers; 2011.*

Semester 4th

Course Title: Oral Medicine & Dental Pharmacology	L	T	P	Cr
Course Code: BDH401	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the etiology, diagnosis, and management of common oral diseases and conditions.
2. Correlate systemic diseases with their oral manifestations and implications for dental treatment.
3. Describe commonly used drugs in dentistry, their mechanisms, indications, contraindications, and side effects.
4. Demonstrate rational prescribing practices and recognize adverse drug reactions.
5. Apply knowledge of oral medicine and pharmacology in comprehensive patient care.

Course Contents

UNIT-I **10 Hours**

- Introduction to oral medicine: scope and importance
- Common oral mucosal lesions: aphthous ulcers, candidiasis, lichen planus
- Oral manifestations of systemic diseases: diabetes, anemia, nutritional deficiencies

UNIT-II **10 Hours**

- Orofacial pain: etiology, diagnosis, and management (neuralgia, TMJ disorders)
- Potentially malignant disorders: leukoplakia, erythroplakia, oral submucous fibrosis
- Oral cancer: risk factors, clinical features, diagnosis, referral pathways

UNIT-III **5 Hours**

- Principles of dental pharmacology

- Local anaesthetics: pharmacology, clinical use, complications
- Analgesics and anti-inflammatory drugs in dentistry (NSAIDs, opioids)

UNIT-IV **5 Hours**

- Antimicrobial agents in dentistry: antibiotics, antifungals, antivirals
- Drugs in special conditions: pregnancy, pediatrics, geriatrics, medically compromised patients
- Emergencies in dental practice and their drug management (syncope, anaphylaxis, angina, asthma)

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Greenberg MS, Glick M, Ship JA. Burket's Oral Medicine. 12th ed. Shelton: PMPH USA; 2015.*
- *Tyldesley WR, Field A, Longman L. Tyldesley's Oral Medicine. 5th ed. Oxford: Oxford University Press; 2003.*
- *Yagiela JA, Dowd FJ, Johnson BS, Mariotti AJ, Neidle EA. Pharmacology and Therapeutics for Dentistry. 7th ed. St. Louis: Elsevier; 2017.*
- *Malamed SF. Handbook of Local Anesthesia. 7th ed. St. Louis: Elsevier; 2019.*
- *Scully C. Medical Problems in Dentistry. 7th ed. Edinburgh: Churchill Livingstone; 2014.*
- *Kumar V, Abbas AK, Aster JC. Robbins Basic Pathology. 10th ed. Philadelphia: Elsevier; 2017.*
- *Laskaris G. Pocket Atlas of Oral Diseases. 5th ed. Stuttgart: Thieme; 2017.*

Course Title: Clinical Dental Hygiene – I	L	T	P	Cr
Course Code: BDH402	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the principles and scope of dental hygiene in clinical practice.
2. Demonstrate knowledge of patient assessment methods including history taking and examination.
3. Identify oral hygiene needs and plan preventive care for patients.
4. Apply infection control and safety measures in clinical dental practice.
5. Correlate theoretical knowledge with practical approaches in patient care.

Course Contents

UNIT-I **10 Hours**

- Introduction to clinical dental hygiene: roles and responsibilities
- Patient assessment: medical, dental, and social history taking
- Vital signs measurement: blood pressure, pulse, respiration, temperature
- Extraoral and intraoral examination basics

UNIT-II **10 Hours**

- Principles of infection control: sterilization, disinfection, PPE
- Dental operatory preparation and patient positioning
- Dental charting: methods and symbols
- Introduction to indices for oral health assessment (Plaque Index, Gingival Index, OHI-S)

UNIT-III **5 Hours**

- Oral prophylaxis: basic concepts and objectives
- Introduction to scaling instruments and their use (manual and ultrasonic)
- Patient education: toothbrushing techniques and interdental aids

UNIT-IV **5 Hours**

- Patient motivation and communication skills

- Preventive strategies: topical fluorides, mouth rinses, pit & fissure sealants (overview)
- Record keeping and documentation in dental hygiene practice

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Wilkins EM. Clinical Practice of the Dental Hygienist. 13th ed. Philadelphia: Wolters Kluwer; 2020.*
- *Darby ML, Walsh M. Dental Hygiene: Theory and Practice. 5th ed. St. Louis: Elsevier; 2019.*
- *Weinberg MA, Westphal C, Froum SJ, Palat M. Clinical Guide to Periodontics. 4th ed. New Jersey: Pearson; 2018.*
- *Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *Pickard HM, Kidd EAM. Pickard's Manual of Operative Dentistry. 9th ed. Oxford: Oxford University Press; 2011.*
- *Fehrenbach MJ, Popowics T. Illustrated Anatomy of the Head and Neck. 5th ed. St. Louis: Elsevier; 2020.*
- *Bowen DM, Pieren JA. Dental Hygiene: Concepts, Cases, and Competencies. 4th ed. Philadelphia: Wolters Kluwer; 2019.*

Course Title: Dental Public Health & Epidemiology	L	T	P	Cr
Course Code: BDH403	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the concepts, scope, and importance of dental public health.
2. Describe principles of epidemiology and its application in oral health research.
3. Identify epidemiology of common oral diseases and their risk factors.
4. Apply knowledge of indices and surveys for measuring oral health status in populations.
5. Plan, implement, and evaluate community-based oral health programs.

Course Contents

UNIT-I **10 Hours**

- Introduction to dental public health: definition, scope, and importance
- Concepts of health, disease, and prevention in dentistry
- Natural history of disease and levels of prevention
- Role of dental public health in community and primary healthcare

UNIT-II **10 Hours**

- Epidemiology: definition, aims, uses, and methods
- Epidemiological triad and web of causation in oral diseases
- Measures of disease frequency: incidence, prevalence, morbidity, mortality
- Epidemiology of dental caries, periodontal disease, malocclusion, oral cancer

UNIT-III **5 Hours**

- Oral health surveys: objectives, methods, sampling techniques
- Dental indices: DMFT, OHI-S, CPITN, Plaque Index
- Data collection and interpretation in dental epidemiology

UNIT-IV **5 Hours**

- National Oral Health Programme (NOHP) – objectives and strategies
- WHO oral health initiatives and global oral health goals

- Planning, implementation, and evaluation of dental public health programs
- Ethics and legal issues in epidemiological studies

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Park K. Park's Textbook of Preventive and Social Medicine. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.*
- *Burt BA, Eklund SA. Dentistry, Dental Practice, and the Community. 6th ed. St. Louis: Elsevier Saunders; 2005.*
- *Hiremath SS. Textbook of Preventive and Community Dentistry. 3rd ed. New Delhi: Elsevier; 2019.*
- *Beaglehole R, Benzian H, Crail J, Mackay J. The Oral Health Atlas. 2nd ed. Geneva: FDI World Dental Federation; 2015.*
- *Petersen PE. World Health Organization: Oral Health. Geneva: WHO; 2018.*
- *Murray JJ, Nunn JH, Steele JG. Prevention of Oral Disease. 4th ed. Oxford: Oxford University Press; 2003.*
- *Sheiham A, Watt RG. Oral Health Promotion: Effectiveness and Evidence. 2nd ed. London: World Health Organization; 2012.*

Course Title: Hospital Operation Management for Dental	L	T	P	Cr
Course Code: BDH404	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the principles and functions of hospital operation management in dental settings.
2. Describe hospital organization, dental OPD workflow, and resource allocation.
3. Apply concepts of patient scheduling, record management, and infection control in dental hospitals.
4. Understand human resource management, teamwork, and interdepartmental coordination in dental practice.
5. Analyze quality assurance, safety, and legal aspects in dental hospital administration.

Course Contents

UNIT-I **10 Hours**

- Introduction to hospital operation management: concept and scope
- Organization of a dental hospital/clinic: departments, functions, workflow
- Roles and responsibilities of dental healthcare team members
- Patient admission, discharge, and referral systems

UNIT-II **10 Hours**

- Outpatient management in dentistry: patient registration, appointment scheduling, and dental records
- Infection control and biomedical waste management in dental hospital operations
- Dental operatory layout and equipment management
- Coordination with diagnostic and support services (radiology, pathology, pharmacy)

UNIT-III **5 Hours**

- Human resource management in dental hospital: recruitment, training, and teamwork
- Communication skills and patient relationship management
- Ethical considerations in dental hospital administration

UNIT-IV **5 Hours**

- Quality assurance and audit in dental hospital services
- Legal and regulatory aspects: consent, documentation, patient rights
- Hospital safety protocols: emergency preparedness and disaster management
- Recent trends in hospital and dental practice management (digital records, tele-dentistry)

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Gupta S, Kant S. Hospital Management: A Problem-oriented Approach. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2019.*
- *Reddy KS. Hospital Administration and Human Resource Management. 3rd ed. New Delhi: PHI Learning; 2018.*
- *Kurz RS, Wolper LF. Health Care Management. 7th ed. Burlington: Jones & Bartlett Learning; 2019.*
- *Goel SL, Kumar R. Hospital Administration and Management: Theory and Practice. New Delhi: Deep & Deep Publications; 2018.*
- *Sriram B. Hospital Administration and Management. New Delhi: Himalaya Publishing House; 2017.*
- *Collins S, Wakefield L. Dental Practice Management. 2nd ed. London: Elsevier; 2015.*
- *World Health Organization. Quality of Care: A Process for Making Strategic Choices in Health Systems. Geneva: WHO; 2006.*

Course Title: Oral Anatomy and Embryology	L	T	P	Cr
Course Code: BDH405	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the anatomy of oral and maxillofacial structures.
2. Describe the development and growth of teeth and associated structures.
3. Identify microscopic and macroscopic features of oral tissues.
4. Correlate embryological development with common dental anomalies.
5. Apply anatomical and embryological knowledge to clinical dental practice.

Course Contents

UNIT-I **10 Hours**

- Anatomy of oral cavity: boundaries, divisions, oral vestibule, and oral cavity proper
- Anatomy of lips, cheeks, palate, tongue, and floor of mouth
- Salivary glands: anatomy, ducts, and functions

UNIT-II **10 Hours**

- Tooth anatomy: external features of crown and root, morphology of anterior and posterior teeth
- Supporting structures of the teeth: gingiva, periodontal ligament, alveolar bone, cementum
- Occlusion: types and significance in dental practice

UNIT-III **5 Hours**

- Embryology of head and neck: branchial arches, pharyngeal pouches, and their derivatives
- Development of face, palate, and tongue
- Development of salivary glands

UNIT-IV **5 Hours**

- Tooth development: stages of odontogenesis (bud, cap, bell)
- Development of enamel, dentin, cementum, and pulp

- Eruption of teeth and shedding of primary dentition
- Developmental anomalies of teeth and oral structures (overview)

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Kumar GS. Orban's Oral Histology and Embryology. 15th ed. New Delhi: Elsevier; 2020.*
- *Nanci A. Ten Cate's Oral Histology: Development, Structure, and Function. 9th ed. St. Louis: Elsevier; 2018.*
- *Singh I. Textbook of Anatomy for Dental Students. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2014.*
- *Berkovitz BKB, Holland GR, Moxham BJ. Oral Anatomy, Histology and Embryology. 5th ed. St. Louis: Mosby; 2018.*
- *Bath-Balogh M, Fehrenbach MJ. Dental Embryology, Histology and Anatomy. 5th ed. St. Louis: Elsevier; 2020.*
- *Sicher H, DuBrul EL. Oral Anatomy. 8th ed. St. Louis: Mosby; 1980.*
- *Fehrenbach MJ, Popowics T. Illustrated Anatomy of the Head and Neck. 5th ed. St. Louis: Elsevier; 2020.*

Course Title: Oral Medicine & Dental Pharmacology Practical	L	T	P	Cr.
Course Code: BDH406	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify common oral lesions and correlate with systemic diseases through case studies.
2. Demonstrate clinical examination and recording of oral mucosal conditions.
3. Apply diagnostic aids (radiographs, lab investigations, biopsy reports) in oral medicine.
4. Prescribe and interpret commonly used drugs in dental practice rationally and safely.
5. Manage medical emergencies in the dental operatory using appropriate pharmacological agents.

Course Content

List of Practical's / Experiments: 60 Hours

- Oral Medicine Practicals:
  - Recording detailed case history of dental patients.
  - Examination of oral mucosal lesions: aphthous ulcers, candidiasis, leukoplakia, lichen planus.
  - Recognition of oral manifestations of systemic diseases (diabetes, anemia, nutritional deficiencies).
  - Examination of patients with orofacial pain and TMJ disorders.
  - Identification and description of premalignant lesions and conditions.
  - Interpretation of radiographs for oral pathology.
  - Correlation of clinical findings with laboratory reports (blood, biopsy, microbiology).
- Dental Pharmacology Practicals:

- Identification of commonly used drugs in dentistry (antibiotics, analgesics, antifungals, antivirals).
- Writing prescriptions for common dental conditions (caries, infections, pain, periodontal disease).
- Demonstration of calculation of drug dosage in adults and children.
- Observation of local anaesthetic administration and documentation.
- Case-based discussion on drug use in special conditions (pregnancy, pediatrics, geriatrics).
- Demonstration of emergency drug kit and its use in dental practice.

  Management of simulated dental emergencies (syncope, anaphylaxis, asthma, angina).
- Maintenance of a practical record book including case reports, prescriptions, and emergency management notes.

Suggested Readings

- *Greenberg MS, Glick M, Ship JA. Burket's Oral Medicine. 12th ed. Shelton: PMPH USA; 2015.*
- *Scully C. Medical Problems in Dentistry. 7th ed. Edinburgh: Churchill Livingstone; 2014.*
- *Yagiela JA, Dowd FJ, Johnson BS, Mariotti AJ, Neidle EA. Pharmacology and Therapeutics for Dentistry. 7th ed. St. Louis: Elsevier; 2017.*
- *Malamed SF. Handbook of Local Anesthesia. 7th ed. St. Louis: Elsevier; 2019.*
- *Laskaris G. Pocket Atlas of Oral Diseases. 5th ed. Stuttgart: Thieme; 2017.*
- *Kumar V, Abbas AK, Aster JC. Robbins Basic Pathology. 10th ed. Philadelphia: Elsevier; 2017.*
- *Tyldesley WR, Field A, Longman L. Tyldesley's Oral Medicine. 5th ed. Oxford: Oxford University Press; 2003.*

Course Title: Clinical Dental Hygiene – I Practical	L	T	P	Cr.
Course Code: BDH407	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Record patient medical, dental, and social history systematically.
2. Perform extraoral and intraoral examination and charting.
3. Demonstrate use of dental hygiene instruments for scaling and prophylaxis.
4. Educate and motivate patients in maintaining oral hygiene.
5. Maintain clinical records and practice infection control measures in a dental operatory.

Course Content

List of Practical's / Experiments: 60 Hours

- Introduction to clinical dental hygiene operatory, equipment, and instruments.
- Recording case history and vital signs (BP, pulse, respiration, temperature).
- Performing extraoral examination: lymph nodes, TMJ, facial symmetry.
- Performing intraoral examination: oral mucosa, gingiva, tongue, palate, floor of mouth.
- Charting of dentition using dental and periodontal charts.
- Identification of deposits (plaque, calculus, stains).
- Demonstration and practice of scaling using hand instruments (scalers, curettes).
- Demonstration and practice of ultrasonic scaling.
- Polishing techniques: rubber cup and polishing paste.
- Demonstration of oral hygiene aids (toothbrush, floss, interdental brushes, mouth rinses).
- Patient education: demonstration of toothbrushing methods (Modified Bass, Fones, Stillman's).
- Patient motivation through chairside communication and visual aids.

- Application of preventive agents: topical fluorides (gel/foam/varnish).
- Maintenance of infection control protocols: sterilization, disinfection, PPE use.
- Maintenance of clinical record book with patient cases, charting, and notes.

Suggested Readings

- *Wilkins EM. Clinical Practice of the Dental Hygienist. 13th ed. Philadelphia: Wolters Kluwer; 2020.*
- *Darby ML, Walsh M. Dental Hygiene: Theory and Practice. 5th ed. St. Louis: Elsevier; 2019.*
- *Bowen DM, Pieren JA. Dental Hygiene: Concepts, Cases, and Competencies. 4th ed. Philadelphia: Wolters Kluwer; 2019.*
- *Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *Weinberg MA, Westphal C, Froum SJ, Palat M. Comprehensive Periodontics for the Dental Hygienist. 4th ed. New Jersey: Pearson; 2018.*
- *Fehrenbach MJ, Popowics T. Illustrated Anatomy of the Head and Neck. 5th ed. St. Louis: Elsevier; 2020.*
- *Pickard HM, Kidd EAM. Pickard's Manual of Operative Dentistry. 9th ed. Oxford: Oxford University Press; 2011.*

Course Title: Dental Public Health & Epidemiology Practical	L	T	P	Cr.
Course Code: BDH408	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Conduct oral health surveys and apply appropriate dental indices.
2. Collect, record, and analyze epidemiological data related to oral diseases.
3. Demonstrate sampling methods and statistical applications in dental public health.
4. Prepare and present oral health reports based on survey findings.
5. Apply epidemiological principles in planning and evaluating oral health programs.

Course Content

List of Practical's / Experiments: 60 Hours

- Introduction to survey design and preparation of proformas.
- Training in use of dental indices:
  - DMFT/DMFS Index
  - OHI-S (Oral Hygiene Index – Simplified)
  - Plaque Index
  - CPITN (Community Periodontal Index of Treatment Needs)
- Conducting oral health survey in a school/community setting.
- Sampling techniques: random, stratified, cluster sampling (demonstration and exercises).
- Data collection and entry in survey sheets.
- Tabulation of survey data and calculation of prevalence and incidence.
- Statistical analysis: mean, median, standard deviation, chi-square test (basic exercises).
- Preparation of survey reports with tables, charts, and graphs.
- Group activity: designing an oral health program based on survey findings.

- Role play: community participation in oral health promotion.
- Observation of National Oral Health Programme (NOHP) or community-based oral health projects.
- Maintenance of a practical record book including survey forms, indices, statistical calculations, and reports.

Suggested Readings

- *Park K. Park's Textbook of Preventive and Social Medicine. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.*
- *Burt BA, Eklund SA. Dentistry, Dental Practice, and the Community. 6th ed. St. Louis: Elsevier Saunders; 2005.*
- *Hiremath SS. Textbook of Preventive and Community Dentistry. 3rd ed. New Delhi: Elsevier; 2019.*
- *Beaglehole R, Benzian H, Crail J, Mackay J. The Oral Health Atlas. 2nd ed. Geneva: FDI World Dental Federation; 2015.*
- *Petersen PE. World Health Organization: Oral Health. Geneva: WHO; 2018.*
- *Murray JJ, Nunn JH, Steele JG. Prevention of Oral Disease. 4th ed. Oxford: Oxford University Press; 2003.*
- *Sheiham A, Watt RG. Oral Health Promotion: Effectiveness and Evidence. 2nd ed. London: World Health Organization; 2012.*

Course Title: Hospital Operation Management for Dental Practical	L	T	P	Cr.
Course Code: BDH409	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Demonstrate knowledge of dental hospital workflow and patient management systems.
2. Apply appointment scheduling, patient registration, and record-keeping in clinical settings.
3. Implement infection control and biomedical waste management protocols in dental hospitals.
4. Participate in quality assurance, audit, and safety procedures within dental healthcare delivery.
5. Maintain practical records, case notes, and reports on hospital operational activities.

Course Content

List of Practical's / Experiments: 60 Hours

- Orientation to dental hospital/clinic organization and departmental workflow.
- Demonstration of patient admission, registration, and appointment scheduling systems.
- Preparation and maintenance of outpatient and inpatient dental records.
- Observation of referral systems and interdepartmental coordination (radiology, pathology, pharmacy).
- Demonstration of infection control practices and biomedical waste disposal methods.
- Dental operatory layout and equipment management exercises.
- Case-based discussion on patient flow and time management in dental OPD.
- Role play on patient communication and relationship management.

- Preparation of duty rosters and staff scheduling in dental hospitals.
- Observation of hospital safety protocols and emergency preparedness drills.
- Participation in quality assurance and audit activities in dental care.
- Preparation of practical record book including workflow charts, infection control checklists, and patient management forms.

Suggested Readings

- *Gupta S, Kant S. Hospital Management: A Problem-oriented Approach. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2019.*
- *Reddy KS. Hospital Administration and Human Resource Management. 3rd ed. New Delhi: PHI Learning; 2018.*
- *Goel SL, Kumar R. Hospital Administration and Management: Theory and Practice. New Delhi: Deep & Deep Publications; 2018.*
- *Kurz RS, Wolper LF. Health Care Management. 7th ed. Burlington: Jones & Bartlett Learning; 2019.*
- *Collins S, Wakefield L. Dental Practice Management. 2nd ed. London: Elsevier; 2015.*
- *Sriram B. Hospital Administration and Management. New Delhi: Himalaya Publishing House; 2017.*
- *World Health Organization. Quality of Care: A Process for Making Strategic Choices in Health Systems. Geneva: WHO; 2006.*

Course Title: Oral Anatomy and Embryology Practical	L	T	P	Cr.
Course Code: BDH410	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify the anatomical structures of the oral cavity, teeth, and supporting tissues on models and specimens.
2. Demonstrate knowledge of eruption chronology and dental formula through charting and exercises.
3. Recognize microscopic and macroscopic features of oral tissues using slides and histological images.
4. Understand the stages of tooth development and related embryological processes.
5. Maintain a practical record book with labeled diagrams, observations, and developmental charts.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of oral cavity structures: lips, palate, tongue, gingiva, floor of mouth.
- Study of permanent and deciduous teeth – morphology, surfaces, and landmarks.
- Preparation of dental charts (primary, mixed, and permanent dentition).
- Chronology of eruption and chart preparation exercises.
- Study of anatomical models of maxilla and mandible with teeth.
- Observation of histological slides: enamel, dentin, pulp, cementum, and gingiva.
- Identification of salivary glands and duct openings (models and slides).
- Stages of tooth development: bud, cap, and bell stages (models, charts, and microphotographs).
- Study of embryology of palate, tongue, and salivary glands (diagrams and models).

- Identification of developmental anomalies of teeth and oral cavity (charts and specimens).
- Drawing and labeling of microscopic structures (histological diagrams).
- Maintenance of a practical record book with diagrams, eruption charts, and notes.

Suggested Readings

- *Kumar GS. Orban's Oral Histology and Embryology. 15th ed. New Delhi: Elsevier; 2020.*
- *Nanci A. Ten Cate's Oral Histology: Development, Structure, and Function. 9th ed. St. Louis: Elsevier; 2018.*
- *Berkovitz BKB, Holland GR, Moxham BJ. Oral Anatomy, Histology and Embryology. 5th ed. St. Louis: Mosby; 2018.*
- *Bath-Balogh M, Fehrenbach MJ. Dental Embryology, Histology and Anatomy. 5th ed. St. Louis: Elsevier; 2020.*
- *Sicher H, DuBrul EL. Oral Anatomy. 8th ed. St. Louis: Mosby; 1980.*
- *Singh I. Textbook of Anatomy for Dental Students. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2014.*
- *Fehrenbach MJ, Popowics T. Illustrated Anatomy of the Head and Neck. 5th ed. St. Louis: Elsevier; 2020.*

Course Title: Sociology and Community Health	L	T	P	Cr
Course Code: BDH411	3	0	0	3

Total Hours 45

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain basic sociological concepts and their relevance to health and illness.
2. Describe social determinants of health and their impact on oral and general health.
3. Analyze the role of family, culture, and community in shaping health behaviors.
4. Apply principles of sociology in community health programs and health education.
5. Correlate sociological knowledge with planning, implementation, and evaluation of health services.

Course Contents

UNIT-I **15 Hours**

- Introduction to sociology: definition, scope, importance in health sciences
- Society and community: concepts, structure, and functions
- Social institutions: family, religion, education, economy, politics and their influence on health
- Culture: definition, characteristics, cultural beliefs and practices in health and illness

UNIT-II **10 Hours**

- Social determinants of health: poverty, education, occupation, gender, housing, sanitation
- Social stratification and health inequalities
- Urbanization, industrialization, and their effects on health
- Social change and its impact on health behavior

UNIT-III **10 Hours**

- Sociology of health and illness: concept of disease, illness, and sickness

- Illness behavior and patient compliance
- Role of sociology in public health and preventive dentistry
- Social problems in health: alcoholism, drug abuse, HIV/AIDS, tobacco use

UNIT-IV **10 Hours**

- Community health: concepts, principles, and scope
- Role of community in health promotion and disease prevention
- Community participation in health programs
- Planning and evaluation of community-based oral health programs

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Cockerham WC. Medical Sociology. 15th ed. New York: Routledge; 2021.*
- *Dutta DC. Textbook of Sociology for Dental Students. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2018.*
- *Park K. Park's Textbook of Preventive and Social Medicine. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.*
- *Bhatia MS, Bhatia A. Textbook of Sociology for Nurses. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2016.*
- *Basavanthappa BT. Community Health Nursing. 4th ed. New Delhi: Jaypee Brothers Medical Publishers; 2018.*
- *Scambler G. Sociology as Applied to Health and Medicine. 7th ed. London: Palgrave Macmillan; 2018.*
- *Nandy A. Sociology and Health. New Delhi: Rawat Publications; 2017.*

Course Title: Community Medicine	L	T	P	Cr
Course Code: BDH412	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the concept, scope, and importance of community medicine in healthcare.
2. Describe the natural history of disease and various levels of prevention.
3. Identify common communicable and non-communicable diseases of public health importance.
4. Understand the principles of epidemiology and health statistics relevant to community health.
5. Apply knowledge of national health programmes and health education strategies in practice.

Course Contents

UNIT-I **10 Hours**

- Introduction to community medicine: definition, scope, and evolution
- Concepts of health, disease, and well-being
- Natural history of disease and levels of prevention
- Role of community medicine in dentistry and allied health sciences

UNIT-II **10 Hours**

- Epidemiology: definition, aims, and uses
- Epidemiological methods: descriptive, analytical, and experimental studies
- Communicable diseases: epidemiology, prevention, and control of tuberculosis, malaria, HIV/AIDS
- Non-communicable diseases: epidemiology, prevention, and control of diabetes, hypertension, cancer

UNIT-III **5 Hours**

- Demography and family planning: population dynamics, contraceptive methods

- Health statistics: morbidity, mortality, incidence, prevalence, basic biostatistics
- Environmental health: water, sanitation, air, waste management

UNIT-IV **5 Hours**

- National Health Programmes (NHM, RNTCP, NVBDCP, NCD Control programmes)
- Health care delivery system in India: primary, secondary, tertiary care
- Health education: principles, methods, and communication in community health
- Role of WHO and other international health agencies

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- Park K. *Park's Textbook of Preventive and Social Medicine*. 27th ed. Jabalpur: Banarsidas Bhanot; 2023.
- Mahajan BK, Gupta MC. *Textbook of Preventive and Social Medicine*. 5th ed. New Delhi: Jaypee Brothers Medical Publishers; 2019.
- Gupta P, Kumar R. *Textbook of Community Medicine*. 5th ed. New Delhi: CBS Publishers; 2021.
- Banerjee B. *Community Medicine with Recent Advances*. 5th ed. New Delhi: Jaypee Brothers Medical Publishers; 2021.
- Sathe PV, Sathe AP. *Epidemiology and Management for Health Care for All*. 3rd ed. New Delhi: Popular Prakashan; 2017.
- WHO. *Basic Epidemiology*. 2nd ed. Geneva: World Health Organization; 2006.
- Detels R, Gulliford M, Karim QA, Tan CC. *Oxford Textbook of Global Public Health*. 7th ed. Oxford: Oxford University Press; 2022.

Semester 5th

Course Title: Clinical Dental Hygiene – II	L	T	P	Cr
Course Code: BDH501	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Perform advanced patient assessment and treatment planning for dental hygiene care.
2. Apply advanced instrumentation and periodontal debridement techniques.
3. Provide patient-centered preventive care, including use of chemotherapeutic agents.
4. Manage medically compromised and special needs patients in dental hygiene practice.
5. Integrate documentation, ethics, and evidence-based practice into clinical decision-making.

Course Contents

UNIT-I **10 Hours**

- Review of patient assessment: systemic and oral health considerations
- Comprehensive periodontal charting and risk assessment
- Advanced treatment planning in dental hygiene practice
- Documentation and record keeping in clinical settings

UNIT-II **10 Hours**

- Advanced instrumentation: curettes, ultrasonic scalers, polishing devices
- Periodontal debridement and supportive periodontal therapy
- Use of chemotherapeutic agents: local delivery systems, chlorhexidine, fluoride varnishes
- Adjunctive aids in preventive dentistry

UNIT-III **5 Hours**

- Management of medically compromised patients (diabetes, cardiovascular disease, bleeding disorders)
- Dental hygiene considerations in pediatric and geriatric patients
- Oral care for patients with special needs

UNIT-IV **5 Hours**

- Patient motivation and behavioral modification strategies
- Ethics and legal considerations in dental hygiene practice
- Evidence-based approach to clinical dental hygiene
- Recent advances in preventive and periodontal care

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Wilkins EM. Clinical Practice of the Dental Hygienist. 13th ed. Philadelphia: Wolters Kluwer; 2020.*
- *Darby ML, Walsh M. Dental Hygiene: Theory and Practice. 5th ed. St. Louis: Elsevier; 2019.*
- *Bowen DM, Pieren JA. Dental Hygiene: Concepts, Cases, and Competencies. 4th ed. Philadelphia: Wolters Kluwer; 2019.*
- *Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *Weinberg MA, Westphal C, Froum SJ, Palat M. Comprehensive Periodontics for the Dental Hygienist. 4th ed. New Jersey: Pearson; 2018.*
- *Fehrenbach MJ, Popowics T. Illustrated Anatomy of the Head and Neck. 5th ed. St. Louis: Elsevier; 2020.*
- *Lang NP, Bartold PM. Periodontology and Implant Dentistry. 2nd ed. Berlin: Quintessence Publishing; 2018.*

Course Title: Geriatric Dentistry	L	T	P	Cr
Course Code: BDH502	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the biological and physiological changes associated with aging and their impact on oral health.
2. Identify common oral diseases and conditions prevalent among elderly patients.
3. Demonstrate knowledge of preventive and therapeutic strategies in geriatric dentistry.
4. Manage dental care for elderly patients with systemic diseases and polypharmacy.
5. Apply patient-centered approaches, ethics, and communication skills in geriatric oral healthcare.

Course Contents

UNIT-I **10 Hours**

- Introduction to geriatric dentistry: scope, importance, demographic trends
- The biology of aging: systemic and oral changes with age
- Geriatric patient assessment: medical, social, and psychological considerations
- Comprehensive treatment planning in elderly patients

UNIT-II **10 Hours**

- Oral diseases in the elderly: dental caries, root caries, periodontal disease
- Oral mucosal lesions: candidiasis, leukoplakia, lichen planus, denture stomatitis
- Oral manifestations of systemic diseases (diabetes, cardiovascular disease, osteoporosis)
- Xerostomia and salivary gland disorders in elderly patients

UNIT-III **5 Hours**

- Prosthodontic considerations in geriatric patients: complete and partial dentures
- Preventive strategies: fluoride therapy, diet counseling, oral hygiene aids for elderly
- Management of edentulous patients and maintenance of prostheses

UNIT-IV **5 Hours**

- Polypharmacy in elderly patients: drug interactions and dental considerations
- Pain management and local anaesthesia in geriatric patients
- Ethical and legal issues in geriatric dentistry
- Community-based oral health programs for elderly populations

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Ettinger RL, Beck JD. Geriatric Dentistry: Caring for Our Aging Population. 2nd ed. St. Louis: Elsevier; 2020.*
- *Nunez J, De Visschere L, Janssens B, et al. Oral Health and Aging. Cham: Springer; 2017.*
- *Shay K, Ettinger RL. Essentials of Clinical Gerodontology. Chicago: Quintessence Publishing; 2018.*
- *Budtz-Jørgensen E, Luan WM, Holm-Pedersen P. Textbook of Gerodontology. 3rd ed. London: Wiley-Blackwell; 2016.*
- *Fehrenbach MJ, Popowics T. Illustrated Anatomy of the Head and Neck. 5th ed. St. Louis: Elsevier; 2020.*
- *MacEntee MI. Oral Healthcare and the Frail Elder: Interdisciplinary Approaches. Hoboken: Wiley-Blackwell; 2011.*
- *WHO. World Report on Ageing and Health. Geneva: World Health Organization; 2015.*

Course Title: Advanced periodontology Surgical Assisting	L	T	P	Cr
Course Code: BDH503	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the principles and techniques of advanced periodontal surgical procedures.
2. Demonstrate knowledge of surgical armamentarium and aseptic techniques in periodontal surgery.
3. Assist in periodontal flap surgeries, regenerative procedures, and implant-related surgeries.
4. Manage surgical patients pre-operatively, intra-operatively, and post-operatively.
5. Apply knowledge of patient safety, sterilization, and surgical documentation in clinical practice.

Course Contents

UNIT-I **10 Hours**

- Introduction to periodontal surgery: indications, contraindications, objectives
- Surgical asepsis and infection control in periodontal surgery
- Armamentarium for periodontal surgical procedures
- Patient preparation, surgical draping, and sterilization protocols

UNIT-II **10 Hours**

- Periodontal flap surgery: principles, types (modified Widman flap, apically repositioned flap, coronally advanced flap)
- Osseous resective and regenerative surgery (bone grafts, guided tissue regeneration)
- Periodontal plastic surgery: gingival grafts, root coverage procedures
- Role of the surgical assistant during flap surgeries

UNIT-III **5 Hours**

- Surgical management of furcation defects and peri-implant diseases

- Surgical crown lengthening procedures
- Use of lasers and microsurgical techniques in periodontology

UNIT-IV **5 Hours**

- Post-operative care: pain management, suture removal, dressing changes
- Documentation and maintenance of surgical records
- Complications in periodontal surgery and their management
- Ethical and medico-legal aspects of assisting in surgery

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *Lindhe J, Lang NP, Karring T. Clinical Periodontology and Implant Dentistry. 6th ed. Oxford: Wiley-Blackwell; 2015.*
- *Wilson TG, Kornman KS. Fundamentals of Periodontics. 2nd ed. Chicago: Quintessence Publishing; 2003.*
- *Rose LF, Mealey BL, Genco RJ, Cohen W. Periodontics: Medicine, Surgery, and Implants. 2nd ed. St. Louis: Mosby; 2015.*
- *Harrel SK, Wilson TG. Textbook of Periodontal Surgery. Chicago: Quintessence Publishing; 2004.*
- *Cohen ES. Atlas of Periodontal Surgery. 3rd ed. Shelton: PMPH USA; 2007.*

Course Title: Advanced Radiology & Dental Imaging	L	T	P	Cr
Course Code: BDH504	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain advanced imaging modalities used in dentistry and maxillofacial diagnosis.
2. Interpret radiographic features of common dental and maxillofacial pathologies.
3. Understand principles, indications, and limitations of Cone Beam Computed Tomography (CBCT).
4. Apply radiation protection and safety measures in advanced dental imaging.
5. Correlate radiological findings with clinical diagnosis and treatment planning.

Course Contents

UNIT-I **10 Hours**

- Review of basic radiology and imaging principles
- Digital radiography: direct, indirect, and hybrid systems
- Advanced intraoral and extraoral radiographic techniques
- Radiographic image enhancement and interpretation basics

UNIT-II **10 Hours**

- Cone Beam Computed Tomography (CBCT): principles, equipment, advantages, limitations
- Applications of CBCT in implantology, orthodontics, endodontics, and maxillofacial surgery
- Radiation dose considerations and comparison with conventional imaging
- Artifacts in CBCT and methods of reduction

UNIT-III **5 Hours**

- Other advanced imaging modalities in dentistry:
  - Medical CT and MRI for maxillofacial diagnosis

- Ultrasonography in oral and maxillofacial imaging
- Nuclear medicine in dentistry (PET, SPECT – overview)

- Indications and clinical applications

UNIT-IV **5 Hours**

- Radiographic interpretation of common lesions: cysts, tumors, infections, trauma
- Principles of forensic dental radiology
- Radiation protection in advanced imaging
- Recent advances and future trends in dental imaging (AI in radiology, 3D printing from imaging data)

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *White SC, Pharoah MJ. Oral Radiology: Principles and Interpretation. 8th ed. St. Louis: Elsevier; 2019.*
- *Iannucci JM, Howerton LJ. Dental Radiography: Principles and Techniques. 6th ed. St. Louis: Elsevier; 2022.*
- *Whaites E, Drage N. Essentials of Dental Radiography and Radiology. 6th ed. London: Elsevier; 2020.*
- *Scarfe WC, Farman AG, Sukovic P. Cone Beam Computed Tomography in Dentistry. 1st ed. Chicago: Quintessence Publishing; 2006.*
- *Langlais RP, Langland OE, Nortjé CJ. Diagnostic Imaging of the Jaws. 2nd ed. Baltimore: Williams & Wilkins; 1995.*
- *Miles DA, Van Dis ML, Williamson GF, Jensen CW. Radiographic Imaging for the Dental Team. 6th ed. St. Louis: Elsevier; 2020.*
- *Vogl TJ, Reith W, Kalender WA. Radiology: A Practical Handbook. 2nd ed. Stuttgart: Thieme; 2016.*

Course Title: Research Methodology & Biostatistics	L	T	P	Cr
Course Code: BDH505	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the fundamental principles of research methodology and its application in dentistry.
2. Formulate research problems, objectives, and hypotheses.
3. Apply appropriate study designs and sampling techniques in dental research.
4. Use basic biostatistical methods for data collection, analysis, and interpretation.
5. Prepare research reports, abstracts, and presentations in accordance with scientific standards.

Course Contents

UNIT-I **10 Hours**

- Introduction to research methodology: definition, objectives, and significance in dentistry
- Types of research: basic, applied, clinical, community-based
- Formulation of research problem, aims, and objectives
- Hypothesis: definition, types, formulation, and testing

UNIT-II **10 Hours**

- Research design: descriptive, analytical, experimental, cross-sectional, longitudinal, case-control, cohort studies
- Sampling methods: probability and non-probability sampling, sample size calculation
- Data collection methods: questionnaires, interviews, observations, clinical examinations
- Reliability and validity in research

UNIT-III **5 Hours**

- Introduction to biostatistics: scope and applications

- Presentation of data: tabulation, diagrams, graphs, frequency distribution
- Measures of central tendency: mean, median, mode
- Measures of dispersion: range, variance, standard deviation

UNIT-IV **5 Hours**

- Tests of significance: t-test, chi-square test, ANOVA (concepts and applications)
- Correlation and regression analysis (basic concepts)
- Use of software in biostatistics (SPSS, MS Excel, R – introduction)
- Writing a research proposal and report; ethical issues in research

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Kothari CR, Garg G. Research Methodology: Methods and Techniques. 4th ed. New Delhi: New Age International Publishers; 2019.*
- *Gupta SC, Kapoor VK. Fundam`entals of Applied Statistics. 4th ed. New Delhi: Sultan Chand & Sons; 2020.*
- *Indrayan A, Malhotra RK. Medical Biostatistics. 4th ed. Boca Raton: CRC Press; 2018.*
- *Dawson B, Trapp RG. Basic & Clinical Biostatistics. 5th ed. New York: McGraw-Hill Education; 2017.*
- *Hulley SB, Cummings SR, Browner WS, Grady DG, Newman TB. Designing Clinical Research. 4th ed. Philadelphia: Lippincott Williams & Wilkins; 2013.*
- *Mahajan BK, Gupta MC. Textbook of Preventive and Social Medicine. 5th ed. New Delhi: Jaypee Brothers Medical Publishers; 2019.*
- *Pagano M, Gauvreau K. Principles of Biostatistics. 2nd ed. Belmont: Cengage Learning; 2018.*

Course Title: Preventive Oral Care	L	T	P	Cr
Course Code: BDH506	2	0	0	2

Total Hours 30

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the principles and importance of preventive dentistry in maintaining oral health.
2. Identify risk factors for dental caries, periodontal disease, and other oral conditions.
3. Demonstrate knowledge of preventive measures such as fluorides, sealants, and oral hygiene practices.
4. Educate and motivate patients for maintaining optimal oral hygiene.
5. Integrate preventive strategies into community and clinical dental practice.

Course Contents

UNIT-I **10 Hours**

- Introduction to preventive dentistry: objectives, scope, and importance
- Levels of prevention in dentistry (primary, secondary, tertiary)
- Natural history of dental diseases and prevention strategies
- Patient education and motivation in preventive care

UNIT-II **10 Hours**

- Prevention of dental caries: role of diet, fluoride, sealants
- Prevention of periodontal disease: plaque control, oral hygiene aids, professional prophylaxis
- Preventive prosthodontics and orthodontics: space maintainers, habit breaking appliances
- Role of saliva in preventive oral health

UNIT-III **5 Hours**

- Fluorides in preventive dentistry: systemic (water fluoridation, supplements) and topical applications (gels, varnishes, rinses)
- Pit and fissure sealants: indications, materials, and application techniques

- Antimicrobial agents in preventive dentistry (chlorhexidine, triclosan, essential oils)

UNIT-IV **5 Hours**

- Preventive strategies for special groups: children, geriatric patients, medically compromised patients
- Preventive oral care in community settings: school health programs, community fluoridation projects
- Recent advances in preventive dentistry (probiotics, nanotechnology, laser applications)
- Ethical and medico-legal aspects of preventive care

Transaction Modes: Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Murray JJ, Nunn JH, Steele JG. Prevention of Oral Disease. 4th ed. Oxford: Oxford University Press; 2003.*
- *Harris NO, Garcia-Godoy F, Nathe CN. Primary Preventive Dentistry. 9th ed. Boston: Pearson; 2019.*
- *Fejerskov O, Nyvad B, Kidd EAM. Dental Caries: The Disease and Its Clinical Management. 3rd ed. Oxford: Wiley-Blackwell; 2015.*
- *Wilkins EM. Clinical Practice of the Dental Hygienist. 13th ed. Philadelphia: Wolters Kluwer; 2020.*
- *Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *Touger-Decker R, Mobley CC. Diet and Nutrition in Oral Health. 3rd ed. Philadelphia: Wolters Kluwer; 2014.*
- *Petersen PE. World Health Organization: Oral Health Promotion – An Essential Element of a Health-Promoting School. Geneva: WHO; 2003.*

Course Title: Clinical Dental Hygiene – II Practical	L	T	P	Cr.
Course Code: BDH507	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Perform comprehensive patient assessment including charting and periodontal evaluation.
2. Demonstrate advanced instrumentation techniques for scaling, root planing, and polishing.
3. Apply preventive and supportive periodontal therapy measures.
4. Provide oral hygiene education and behavioral modification strategies tailored to patient needs.
5. Maintain clinical records and follow ethical and safety protocols in dental hygiene practice.

Course Content

List of Practical's / Experiments: 60 Hours

- Case history recording and comprehensive patient assessment.
- Periodontal charting including probing depth, attachment loss, furcation involvement.
- Training in advanced scaling and root planing techniques (hand instruments and ultrasonic).
- Use of curettes and advanced instrumentation in subgingival debridement.
- Practice of polishing techniques and stain removal.
- Application of chemotherapeutic agents (local delivery, chlorhexidine, fluoride varnishes).
- Patient education in oral hygiene aids and modification of brushing techniques.
- Counseling patients on diet, smoking cessation, and oral health maintenance.
- Supportive periodontal therapy and recall protocols.

- Management of medically compromised and geriatric patients in hygiene practice.
- Role plays and simulation on patient motivation and behavior management.
- Maintenance of clinical record book with detailed case documentation and treatment outcomes.

Suggested Readings

- *Wilkins EM. Clinical Practice of the Dental Hygienist. 13th ed. Philadelphia: Wolters Kluwer; 2020.*
- *Darby ML, Walsh M. Dental Hygiene: Theory and Practice. 5th ed. St. Louis: Elsevier; 2019.*
- *Bowen DM, Pieren JA. Dental Hygiene: Concepts, Cases, and Competencies. 4th ed. Philadelphia: Wolters Kluwer; 2019.*
- *Weinberg MA, Westphal C, Froum SJ, Palat M. Comprehensive Periodontics for the Dental Hygienist. 4th ed. New Jersey: Pearson; 2018.*
- *Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *Fehrenbach MJ, Popowics T. Illustrated Anatomy of the Head and Neck. 5th ed. St. Louis: Elsevier; 2020.*
- *Lang NP, Bartold PM. Periodontology and Implant Dentistry. 2nd ed. Berlin: Quintessence Publishing; 2018.*

Course Title: Geriatric Dentistry Practical	L	T	P	Cr.
Course Code: BDH508	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Assess oral and general health conditions in geriatric patients.
2. Identify common oral diseases and prosthodontic needs in elderly patients.
3. Demonstrate preventive and therapeutic oral care measures suitable for the elderly.
4. Counsel geriatric patients and caregivers on oral hygiene, nutrition, and prosthesis maintenance.
5. Maintain case records and apply ethical, empathetic approaches in elderly patient management.

Course Content

List of Practical's / Experiments: 60 Hours

- Recording medical, dental, and social history of geriatric patients.
- Clinical examination of oral mucosa, dentition, periodontal tissues, and prostheses in elderly patients.
- Identification of common geriatric oral conditions: root caries, attrition, xerostomia, denture stomatitis.
- Recording and interpreting oral manifestations of systemic diseases (diabetes, hypertension, osteoporosis).
- Demonstration of oral hygiene aids for elderly patients (modified toothbrushes, interdental brushes, mouth rinses).
- Fabrication, insertion, and adjustment of complete and partial dentures (observation/assisting).
- Counseling patients and caregivers on maintenance of dentures and oral hygiene practices.
- Application of preventive measures such as fluoride varnish, chlorhexidine rinses, desensitizing agents.

- Case study: dietary counseling and lifestyle advice for elderly patients with oral health issues.
- Participation in geriatric oral health camps/community visits.
- Role play: communication with geriatric patients with cognitive or physical impairment.
- Maintenance of practical record book with case reports, charts, and treatment notes.

Suggested Readings

- *Ettinger RL, Beck JD. Geriatric Dentistry: Caring for Our Aging Population. 2nd ed. St. Louis: Elsevier; 2020.*
- *Shay K, Ettinger RL. Essentials of Clinical Gerodontology. Chicago: Quintessence Publishing; 2018.*
- *Budtz-Jørgensen E, Luan WM, Holm-Pedersen P. Textbook of Gerodontology. 3rd ed. London: Wiley-Blackwell; 2016.*
- *MacEntee MI. Oral Healthcare and the Frail Elder: Interdisciplinary Approaches. Hoboken: Wiley-Blackwell; 2011.*
- *Nunez J, De Visschere L, Janssens B, et al. Oral Health and Aging. Cham: Springer; 2017.*
- *Fehrenbach MJ, Popowics T. Illustrated Anatomy of the Head and Neck. 5th ed. St. Louis: Elsevier; 2020.*

Course Title: Advanced periodontology Surgical Assisting Practical	L	T	P	Cr.
Course Code: BDH509	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Identify and handle surgical armamentarium used in periodontal surgeries.
2. Assist in patient preparation, draping, and maintaining asepsis during surgical procedures.
3. Support clinicians in flap surgeries, regenerative procedures, and periodontal plastic surgeries.
4. Demonstrate knowledge of suturing techniques, dressing, and post-operative care.
5. Maintain surgical records and follow safety, sterilization, and infection control protocols.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of surgical instruments used in periodontal surgery (scalpels, elevators, retractors, curettes).
- Preparation and sterilization of surgical instruments and trays.
- Demonstration of surgical asepsis: gowning, gloving, and draping.
- Assisting in local anaesthesia administration and patient preparation for surgery.
- Role of assistant during flap surgeries (Modified Widman, apically repositioned, coronally advanced flaps).
- Assisting in osseous resective and regenerative procedures (bone grafting, guided tissue regeneration).
- Observation/assisting in periodontal plastic surgery procedures (gingival grafts, root coverage).
- Handling suction, retraction, and irrigation during surgical procedures.

- Assisting in suturing techniques and placement of periodontal dressings.
- Observation of management of furcation defects and peri-implant surgeries.
- Post-operative care: monitoring, dressing changes, patient instructions.
- Preparation and maintenance of surgical records and logbooks.

Suggested Readings

- *Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *Lindhe J, Lang NP, Karring T. Clinical Periodontology and Implant Dentistry. 6th ed. Oxford: Wiley-Blackwell; 2015.*
- *Harrel SK, Wilson TG. Textbook of Periodontal Surgery. Chicago: Quintessence Publishing; 2004.*
- *Cohen ES. Atlas of Periodontal Surgery. 3rd ed. Shelton: PMPH USA; 2007.*
- *Rose LF, Mealey BL, Genco RJ, Cohen W. Periodontics: Medicine, Surgery, and Implants. 2nd ed. St. Louis: Mosby; 2015.*
- *Balaji SM. Textbook of Oral and Maxillofacial Surgery. 3rd ed. New Delhi: Elsevier; 2018.*
- *Slots J, Ting M. Periodontics: Medicine, Surgery, and Implants. St. Louis: Mosby; 2007.*

Course Title: Advanced Radiology & Dental Imaging Practical	L	T	P	Cr.
Course Code: BDH510	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Operate and handle advanced dental imaging equipment safely.
2. Demonstrate correct patient positioning and exposure settings for CBCT, panoramic, and cephalometric radiographs.
3. Identify and interpret anatomical landmarks and pathological findings on advanced imaging modalities.
4. Recognize common image artifacts and apply corrective measures.
5. Apply radiation protection and infection control protocols in advanced dental radiology practice.

Course Content

List of Practical's / Experiments: 60 Hours

- Identification of advanced radiology equipment (digital radiography units, panoramic machines, CBCT).
- Demonstration of panoramic radiography (OPG): patient positioning and exposure.
- Cephalometric radiography: positioning, tracing, and cephalometric analysis (basic).
- Cone Beam Computed Tomography (CBCT): equipment orientation, software basics, and applications.
- Handling digital radiography systems: direct sensors, PSP plates, image processing.
- Interpretation of CBCT scans for implant planning, orthodontics, and endodontics.
- Recognition and correction of radiographic errors/artifacts in advanced imaging.
- Identification of common pathologies (cysts, tumors, fractures, infections) using advanced imaging.

- Introduction to MRI and ultrasonography in maxillofacial imaging (demonstration/observation).
- Forensic applications of dental imaging (age estimation, identification – overview).
- Radiation safety protocols: ALARA principle, use of protective devices, dosimetry.
- Maintenance of a practical record book with radiographs, cephalometric tracings, and CBCT screenshots.

Suggested Readings

- *White SC, Pharoah MJ. Oral Radiology: Principles and Interpretation. 8th ed. St. Louis: Elsevier; 2019.*
- *Whaites E, Drage N. Essentials of Dental Radiography and Radiology. 6th ed. London: Elsevier; 2020.*
- *Scarfe WC, Farman AG, Sukovic P. Cone Beam Computed Tomography in Dentistry. Chicago: Quintessence Publishing; 2006.*
- *Langland OE, Langlais RP, Preece JW. Principles of Dental Imaging. 2nd ed. Philadelphia: Lippincott Williams & Wilkins; 2002.*
- *Miles DA, Van Dis ML, Williamson GF, Jensen CW. Radiographic Imaging for the Dental Team. 6th ed. St. Louis: Elsevier; 2020.*
- *Vogl TJ, Reith W, Kalender WA. Radiology: A Practical Handbook. 2nd ed. Stuttgart: Thieme; 2016.*
- *Angelopoulos C. Cone Beam Computed Tomography: Oral and Maxillofacial Diagnosis and Applications. New York: Springer; 2018.*

Course Title: Research Methodology & Biostatistics Practical	L	T	P	Cr.
Course Code: BDH511	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Formulate research questions, objectives, and hypotheses.
2. Design and implement simple research projects in dentistry and allied health sciences.
3. Apply sampling techniques and collect valid and reliable data.
4. Perform statistical analysis using manual calculations and basic software tools (Excel/SPSS).
5. Prepare research reports, tables, and graphical presentations of data in a scientific format.

Course Content

List of Practical's / Experiments: 60 Hours

- Writing a research problem, objectives, and hypotheses (practice exercise).
- Designing questionnaires and data collection proformas.
- Demonstration of sampling methods: random, stratified, cluster (field-based exercise).
- Data entry and management using Microsoft Excel/SPSS.
- Presentation of data in tables, bar charts, histograms, pie charts.
- Calculation of measures of central tendency (mean, median, mode).
- Calculation of measures of dispersion (range, variance, standard deviation).
- Exercises on probability distributions (normal distribution basics).
- Application of tests of significance: t-test, chi-square test, ANOVA (demonstrations & practice).
- Correlation and regression exercises with dental data sets.
- Preparation of abstracts and short research proposals.

- Group activity: mini-research project (design → data collection → analysis → presentation).
- Report writing and presentation of findings with visual aids.
- Maintenance of practical record book with exercises, data analysis outputs, and project reports.

Suggested Readings

- *Kothari CR, Garg G. Research Methodology: Methods and Techniques. 4th ed. New Delhi: New Age International Publishers; 2019.*
- *Dawson B, Trapp RG. Basic & Clinical Biostatistics. 5th ed. New York: McGraw-Hill Education; 2017.*
- *Gupta SC, Kapoor VK. Fundamentals of Applied Statistics. 4th ed. New Delhi: Sultan Chand & Sons; 2020.*
- *Indrayan A, Malhotra RK. Medical Biostatistics. 4th ed. Boca Raton: CRC Press; 2018.*
- *Hulley SB, Cummings SR, Browner WS, Grady DG, Newman TB. Designing Clinical Research. 4th ed. Philadelphia: Lippincott Williams & Wilkins; 2013.*
- *Pagano M, Gauvreau K. Principles of Biostatistics. 2nd ed. Belmont: Cengage Learning; 2018.*
- *Mahajan BK, Gupta MC. Textbook of Preventive and Social Medicine. 5th ed. New Delhi: Jaypee Brothers Medical Publishers; 2019.*

Course Title: Preventive Oral Care Practical	L	T	P	Cr
Course Code: BDH512	0	0	4	2

Total Hours 60

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Explain the scope and importance of preventive dentistry in oral health.
2. Describe etiological factors and risk assessment methods for common oral diseases.
3. Discuss preventive measures such as fluorides, sealants, oral hygiene aids, and dietary counseling.
4. Apply preventive approaches in children, adults, geriatric, and medically compromised patients.
5. Correlate preventive strategies with community-based oral health programs.

Course Contents

List of Practical's / Experiments: 60 Hours

- Demonstration and practice of proper tooth brushing and interdental cleaning techniques on models.
- Assessment of patient's oral hygiene status using plaque and gingival indices.
- Motivating patients for oral hygiene compliance: role play and patient counseling simulations.
- Case study discussion on the natural history of dental caries and periodontal disease.
- Epidemiological survey exercises: recording prevalence of dental caries or periodontal conditions in a sample group.
- Application of topical fluoride: gel, foam, and varnish techniques on models or simulated patients.
- Placement of pit and fissure sealants on typodont teeth.
- Demonstration of mechanical plaque control methods (brushing, flossing) and chemical methods (mouth rinses).

- Introduction to preventive prosthodontics and orthodontics: practice of removable appliance hygiene on models.
- Use of salivary substitutes and demonstration of their role in patients with xerostomia.
- Preparing and delivering oral health education sessions: posters, pamphlets, and verbal counseling.
- Demonstration of preventive care techniques for pediatric, geriatric, and pregnant patients.
- Simulated management of medically compromised patients (diabetic, cardiac, xerostomic) during preventive procedures.
- Application and evaluation of antimicrobial mouth rinses in model or patient simulation.
- Critical review of case studies emphasizing preventive strategies.
- Designing and implementing a mini community-based preventive program (e.g., school oral health checkup).
- Demonstration of water fluoridation principles and alternative fluoride delivery methods.
- Exploring recent advances: probiotics, nanotechnology-based pastes, lasers in caries prevention (demonstration/video).
- Ethical and medico-legal discussion through case-based scenarios in preventive dentistry.
- Documentation and reporting of preventive interventions in clinical and community settings.

Suggested Readings

- *Murray JJ, Nunn JH, Steele JG. Prevention of Oral Disease. 4th ed. Oxford: Oxford University Press; 2003.*
- *Harris NO, Garcia-Godoy F, Nathe CN. Primary Preventive Dentistry. 9th ed. Boston: Pearson; 2019.*
- *Fejerskov O, Nyvad B, Kidd EAM. Dental Caries: The Disease and Its Clinical Management. 3rd ed. Oxford: Wiley-Blackwell; 2015.*
- *Wilkins EM. Clinical Practice of the Dental Hygienist. 13th ed. Philadelphia: Wolters Kluwer; 2020.*

- *Newman MG, Takei H, Klokkevold PR, Carranza FA. Carranza's Clinical Periodontology. 13th ed. St. Louis: Elsevier; 2019.*
- *Petersen PE. World Health Organization: Oral Health Promotion. Geneva: WHO; 2003.*
- *Touger-Decker R, Mobley CC. Diet and Nutrition in Oral Health. 3rd ed. Philadelphia: Wolters Kluwer; 2014.*

Semester 6th

Course Title: Internship	L	T	P	Cr
Course Code: BDH601	0	0	40	20

Total Hours 600

Learning Outcomes: After Completion of this course, the learner will be able to:

1. Perform independent oral hygiene procedures on patients.
2. Educate patients and communities on oral health maintenance.
3. Assist dental surgeons in chair-side and radiographic procedures.
4. Apply ethical, safe, and effective practices in clinical dentistry.
5. Maintain accurate records and present case reports professionally.

Course Contents

List of Practical's / Experiments: 600 Hours

The internship in Dental Hygiene is designed to provide students with comprehensive hands-on training in clinical and community settings under professional supervision. During the internship, students will be actively engaged in assisting with and performing oral prophylaxis procedures such as scaling, polishing, fluoride application, and pit and fissure sealants, while also supporting dentists in chair-side procedures and radiographic practices. Emphasis is placed on infection control, sterilization techniques, biomedical waste management, and the maintenance of dental instruments and equipment. Students will also participate in community outreach programs, school dental health initiatives, and oral health education camps, where they will educate patients on proper brushing and flossing techniques, dietary habits, and preventive oral care. Professional skills such as patient communication, counselling, ethics, record-keeping, and teamwork with dental surgeons and healthcare staff are integral to the training. Each student will maintain a logbook of daily activities, prepare detailed case reports, and submit a final internship report, which will be assessed through internal and external evaluations. This internship enables students to integrate theoretical

knowledge with practical experience, preparing them to function as competent, ethical, and independent dental hygiene professionals.