GURU KASHI UNIVERSITY

B. Voc. in Dental Hygiene (3 years)

Session: 2024-25

Department of Paramedical Sciences

Graduate Attributes:

The programme B.Sc. Dental Hygiene imparts to the students an intensive knowledge to perform key dental hygiene procedures such as oral assessments, scaling, root planing, prophylaxis, polishing, and the application of fluoride or sealants. This includes managing complex cases, and tailoring treatment plans to individual patient needs.

Programme Learning Outcomes: After completion of this course graduates will be able to:

- Demonstrate comprehensive knowledge of dental, oral, and general health sciences, including anatomy, physiology, pathology, microbiology, pharmacology, and oral diseases.
- Understand the relationship between oral health and systemic health, including how conditions such as diabetes, cardiovascular disease, and other systemic diseases affect oral health and vice versa.
- Explain the biological, chemical, and mechanical principles behind the prevention, diagnosis, and management of oral diseases.
- Accurately assess patient needs, develop individualized care plans, and implement preventive and therapeutic strategies for maintaining oral health.
- Demonstrate proficiency in pain and anxiety management techniques, including the use of local anesthesia and behavioral management strategies.

Programme Structure

Semester: I							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. of Credits**
1	BDH101	General Anatomy	Core	4	0	0	4
2	BDH102	General Physiology	Core	4	0	0	4
3	BDH103	Introduction to Dental Hygiene	Core	4	0	0	4
4	BDH104	General Anatomy (Practical)	Skill Based	0	0	4	2
5	BDH105	General Physiology (Practical)	Skill Based	0	0	4	2
6	BDH106	Introduction to Dental Hygiene (Practical)	Skill Based	0	0	4	2
7	BDH107	Communication and soft Skills	Compulsory foundation	2	0	0	2
8	BDH108	Human Rights and Duties	Multidisciplinary	3	0	0	3
Disciplinary Elective-I (Any one of the following)							
9	BDH109	Biomedical Waste Management	Disciplinary Elective-I	3	0	0	3
10	BDH110	Introduction to Quality and Patient safety.					
			Total	**20**	**0**	**12**	**26**

Semester: II							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BDH201	Periodontology-I	Core	4	0	0	4
2	BDH202	Dental Radiology	Core	4	0	0	4
3	BDH203	Periodontology-I (Practical)	Skill Based	0	0	4	2
4	BDH204	Dental Radiology (Practical)	Skill Based	0	0	4	2
5	BDH205	Environmental Sciences	Compulsory foundation	2	0	0	2
6	BDH206	First aid	Value Added Course	2	0	0	2
7	BDH299	XXXX	MOOC	-	-	-	3
Disciplinary Elective-II(Any one of the following)							
8	BDH208	Health Education and Health Communication	Disciplinary Elective-II	3	0	0	3
9	BDH209	Basic Fundamental of Computers					
Disciplinary Elective-III (Any one of the following)							
10	BDH210	Medical Terminology and Record Keeping	Disciplinary Elective-III	3	0	0	3
11	BDH211	Medical Ethics					
		Total		**18**	**0**	**08**	**25**

Semester: III							
Sr. No	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. of Credits**
1	BDH301	Nutrition and Oral Health	Core	4	0	0	4
2	BDH302	Clinical Dental Hygiene - I	Core	4	0	0	4
3	BDH303	Nutrition and Oral Health (Practical)	Skill Based	0	0	4	2
4	BDH304	Clinical Dental Hygiene - I (Practical)	Skill Based	0	0	4	2
5	BDH305	Pharmacology for Dental Hygienists	Elective Foundation	3	0	0	3
6	BDH399	XXXX	MOOC	-	-	-	3
Disciplinary Elective-V (Any one of the following)							
7	BDH307	Disaster management	Disciplinary Elective-V	3	0	0	3
8	BDH308	Local Anaesthesia and Pain Management					
Open Elective Course							
9	BDH309	XXXX	IDC	2	0	0	2
			Total	**16**	**0**	**8**	**23**
Open Elective Courses (for other Department)							
10	OEC016	Health care and Nutrition.	Open Elective	2	0	0	2
11	OEC022	Medical Biochemistry					

Semester: IV							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BDH401	Clinical Dental Hygiene - II	Core	4	0	0	4
2	BDH402	Periodontology II	Core	4	0	0	4
3	BDH403	Innovation, creativity and Entrepreneur mind set	Entreprene urship skills	2	0	0	2
4	BDH404	Clinical Dental Hygiene - II (Practical)	Skill Based	0	0	4	2
6.	BDH405	Sociology and Community Health	Multidisciplin ary	3	0	0	3
Value Added Course (for other discipline student also)							
7	BDH406	Community medicine	VAC	2	0	0	2
Disciplinary Elective-V (Any one of the following)							
8	BDH407	Fundamentals of Nursing	Disciplinary Elective-V	3	0	0	3
9	BDH408	Community Dental Health					
Disciplinary Elective-VI (Any one of the following)							
10	BDH409	Hospital Operation Management	Disciplinary Elective-VI	3	0	0	3
11	BDH410	Health care Legal Aspect					
Disciplinary Elective-VII (Any one of the following)							
12	BDH411	Patient Care and Hospital Administration	Disciplinary Elective-VII	3	0	0	3
12	BDH412	Oral Anatomy and Embryology					
			Total	**21**	**0**	**4**	**26**

Semester: V							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BDH501	Clinical Dental Hygiene III	Core	4	0	0	4
2	BDH502	Geriatric Dentistry	Core	4	0	0	4
3	BDH503	Clinical Dental Hygiene IV	Core	4	0	0	4
4	BDH504	Clinical Dental Hygiene III (Practical)	Skill Based	0	0	4	2
5	BDH505	Geriatric Dentistry (Practical)	Skill Based	0	0	4	2
6	BDH506	Research Methodology	AEC	2	0	0	2
7	BDH507	Advanced Periodontology and Surgical Assisting	VAC	2	0	0	2
8	BDH599	XXXX	MOOC	0	0	0	3
Disciplinary Elective-VIII (Any one of the following)							
9	BDH510	**Medical Law and Ethics**	Disciplinary Elective-VIII	3	0	0	3
10	BDH511	Orientation in Clinical Sciences					
			Total	**19**	**0**	**8**	**26**

Semester: VI							
Sr. No.	**Course Code**	**Course Name**	**Type of course**	**L**	**T**	**P**	**No. Of Credits**
1	BDH601	Industrial Training/Internship (6 months)	Skill Based	0	0	0	20
			Total	**0**	**0**	**0**	**20**

Evaluation Criteria for Theory Courses

A. Continuous Assessment: [25 Marks]

CA1- Surprise Test (Two best out of three) (10 Marks)
CA2- Assignment(s) (10 Marks)
CA3- Term paper/ Quiz/Presentation (05 Marks)

B. Attendance (05 Marks)
C. Mid-Semester Test: (30 Marks)
D. End-Semester Exam: (40 Marks)

Semester -1st

Course Title: General Anatomy

Course Code: BDH101

L	T	P	Cr.
4	0	0	4

Total Hours 60

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

1. Explain the structure and function of muscles, including muscle types, naming conventions, and their role in movement.
2. Demonstrate about the different properties of nerve fibers, anatomy of neuralgia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes.
3. Illustrate the anatomy of cell organelles, blood component, function, skeletal system, circulatory system, lymphatic system and its structure help in employability
4. Recognize and describe common anatomical abnormalities and pathological conditions in the human body.

Course Contents

UNIT-I **15 Hours**

Introduction to Anatomy, Definition and scope of anatomy, Anatomical terminology and directional terms, Anatomical planes and sections, Bones: Classification, structure, and functions, Bone development and growth Joints: Types and functions, Axial and appendicular skeleton, Muscular System: Muscle types: Skeletal, smooth, and cardiac function of skeletal muscles,

UNIT-II **15 Hours**

Cardiovascular System, Heart anatomy, Blood vessels: Arteries, veins, and capillaries, Blood composition and functions, Circulation and cardiac cycle,

Skin - Features of skin, hair, sebaceous glands, sweat glands, nails.
Digestive System, Alimentary canal: Mouth, pharynx, oesophagus, stomach, small and large intestine, Accessory digestive organs: Liver, pancreas, and gallbladder

UNIT-III **15 Hours**

Urinary System: Kidney structure and function, Urinary tract: Ureters, urinary bladder, and urethra, Urine formation and excretion Fluid and electrolyte balance, Reproductive System: Male reproductive system: Testes, ducts, accessory glands, and penis, Female reproductive system: Ovaries, uterus, uterine tubes, and vagina, Menstrual cycle and hormonal regulation and Fertilization

UNIT-IV **15 Hours**

Endocrine System: Endocrine glands and hormones, Regulation of hormone secretion, Major endocrine organs: Pituitary, thyroid, parathyroid, adrenal, pancreas, and gonads, Hormonal control and homeostasis, Olfactory system, taste apparatus, Respiratory tract anatomy: Nasal cavity, pharynx, larynx, trachea, bronchi, and lungs, Gas exchange and respiration, Mechanics of breathing

Transaction Modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Chaurasia, B. D. (2010). BD Chaurasia's Human Anatomy. CBSPublishers & Distributors Pvt. Ltd.*
- *Mescher, A. L. (2013). Junqueira's basic histology: text and atlas (Vol. 12). 13th ed. New York: McGraw-Hill*
- *Halim, A. (2008). Human Anatomy: Volume I: Upper Limb and Thorax. IKInternational Pvt Ltd.*
- *Hallam, J. (2009). Grey's Anatomy: Scalpels, sex andstereotypes. Medical Humanities, 35(1), 60-61*

Course Title: General Physiology

Course Code: BDH102

L	T	P	Cr.
4	0	0	4

Total Hours 60

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

1. Explain the fundamental processes that occur within cells, including cellular respiration, membrane transport, and cellular communication.

2. Describe the structure and function of major organ systems in the human body, such as the cardiovascular, respiratory, nervous, and endocrine systems.

3. Demonstrate the properties of nerve fibers, function of neuralgia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes.

4. Provide knowledge about functioning of Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas, help in employability

Course Contents

UNIT-I **15 Hours**

Introduction to physiology of the human body –Composition of body, Homeostasis, Organization of the human body at the tissue level – Function of Epithelial, Connective, Muscular & Nervous tissues, Blood –haemostasis, coagulation of blood, blood transfusion, Lymphatic system – Function of lymph vessels, lymphatic tissue & organs, lymphatics, spleen, tonsil, thymus, Resistance & immunity – Innate immunity, acquired immunity, humoral & cell mediated immunity.

UNIT-II **15 Hours**

Respiratory system – Physiology of respiration, gas exchange in lungs, transport of gases between lungs & tissues, regulation of respiration cardio-vascular system - Heart & blood vessels: Systemic circulation, pulmonary circulation, cardiac output, blood pressure.

Digestive system – Process of digestion, function of oral cavity, pharynx, salivary glands, oesophagus, stomach, small intestine, large intestine, liver, gallbladder, pancreas, Urinary system – Function of kidneys, glomerular apparatus, Ureter, urinary bladder and urethra.

UNIT-III **15 Hours**

Reproductive system– female: Physiology of female reproductive system, Reproductive system – male: Physiology of male reproductive system, Endocrine system - Mechanism of action of hormones, function of pituitary gland, thyroid gland, parathyroid glands and adrenal glands.

UNIT-IV **15 Hours**

Nervous system – Properties of nerve fibers, function of neuroglia, synapse, CNS, CSF, brain, cranial nerves, Skeletal system and bone physiology Muscular system –Types of Muscles, Properties of skeletal muscle, cardiac muscle, smooth muscle, muscles of the body, Skeletal system – Functions of bones, axial skeleton, and appendicular skeleton, Special senses Skin – Function of skin, hair, sebaceous glands, sweat glands and nails

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Ashalatha, P. R., &Deepa, G. (2012). Textbook of Anatomy & Physiology for Nurses. JP Medical Ltd.*
- *Chatterjee, C. C. (2020). Human Physiology. (13th edition). CBS Publisher and Distributor Pvt. Ltd.Colorimetry*
- *Heilbrunn, L. V. (1952). General physiology. Saunders, Philadelphia.*
- *Hall, J. E. 1. (2016). Guyton and Hall textbook of* medical physiology *(13th edition.). Philadelphia, PA: Elsevier.*

Course Title: Introduction to Dental Hygiene

Course Code: BDH103

L	T	P	Cr.
4	0	0	4

Total Hours 60

Learning Outcomes:

- Understand the scope and history of dental hygiene as a profession.
- Identify roles and responsibilities of dental hygienists.
- Learn ethical standards in dental hygiene practice.

Unit-I **Hours 15**

Introduction to Dental Hygiene Profession, Overview of the dental hygiene profession, History and evolution of dental hygiene, The role of dental hygienists in healthcare teams, Introduction to various dental specialties and work settings. Dental Team and Communication, The structure of a dental care team, Inter-professional collaboration in dental practice, Communication techniques with patients and dental staff.

Unit-I **Hours 15**

Preventive Oral Care & Patient Education, Principles of preventive oral health care, Patient education techniques for oral hygiene practices, Motivational interviewing and behavioral change strategies, Ethical and Legal Aspects of Dental Hygiene, Ethics in dental hygiene practice, Legal considerations and scope of practice, Patient rights and confidentiality (HIPAA).

Unit-III **Hours 15**

Infection Control and Safety Protocols, Principles of infection control in dental settings, Sterilization and disinfection methods, OSHA guidelines and protocols for safety, Introduction to Oral Anatomy and Disease Prevention, Basic oral anatomy: teeth, gums, and supporting structures, Introduction to common oral diseases and their prevention, The role of dental hygienists in oral disease prevention and early detection.

Unit-IV **Hours 15**

Dental Hygiene Process of Care, Overview of the dental hygiene process: assessment, diagnosis, planning, implementation, and evaluation (ADPIE), Patient assessment techniques: medical history, oral exams, and radiograph, Care planning and documentation, Dental Hygienists' Role in Public Health, The role of dental hygienists in public health and community outreach, Health promotion and disease prevention programs, Advocacy for oral health and patient access to care

Transactional modes

Video based teaching, Collaborative teaching, Case based Teaching.

References:

1. *Clinical Practice of the Dental Hygienist" by Esther M. Wilkins*
2. *Dental Hygiene: Theory and Practice" by Michele Leonardi Darby and Margaret Walsh*
3. *Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation" by Jill S. Nield-Gehrig*
4. *Primary Preventive Dentistry" by Norman O. Harris, Franklin Garcia-Godoy, and Christine Nielsen Nathe*
5. *Essentials of Dental Hygiene: Clinical Skills" by Mary Danusis Cooper and Denise Bowen*

Course Title: General Anatomy (Practical)

Course Code: BDH104

L	T	P	Cr.
0	0	4	2

Total Hours 30

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

1. Demonstrate about Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas, help in employability.
2. Classify the different properties of nerve fibers, anatomy of neuralgia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes.
3. Illustrate anatomy of cell organelles, blood component, function, skeletal system, circulatory system, lymphatic system and its structure help in employability
4. Discuss about the various muscles, organs, bones, joints, tendons, ligaments, blood vessels and cells.

List of Practical's / Experiments: 30 Hours

1. Demonstration of-Basic anatomical terminology, anatomical position, anatomical planes, levels of organization in the body, organ systems, skeleton, cavities of the body.
2. Lymphatic system - Features of lymph vessels, lymphatic tissue & organs, lymphatics, spleen, tonsil, thymus.
3. Nervous system - Central nervous system, brain, cerebellum, spinal cord, cranial nerves, autonomic nervous system.
4. Muscular system - Skeletal muscle, cardiac muscle, smooth muscle, muscles of the body.
5. Skeletal system - Features of bones, axial skeleton, appendicular skeleton.
6. Musculoskeletal system - Joints of upper & lower limb.
7. Respiratory system - Nose &paranasal sinuses, pharynx, larynx, trachea, lungs.
8. Cardiovascular system - Heart & blood vessels.
9. Digestive system - Oral cavity, pharynx, salivary glands, oesophagus stomach, small intestine, large intestine, liver, gallbladder, pancrea.
10. Urinary system - Kidneys, juxtaglomerularapparatus, Ureter, urinary bladder, urethra.
11. Introduction to genetics - Features of chromosomes, DNA.
12. Reproductive system in females - External & internal genital organs, breast.
13. Reproductive system in males - Penis, scrotum, testes, prostate gland.
14. Endocrine system - Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas.

Transaction Modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Chaurasia, B. D. (2010). BD Chaurasia's Human Anatomy. CBS Publishers & Distributors Pvt. Ltd.*
- *Mescher, A. L. (2013). Junqueira's basic histology: text and atlas (Vol. 12). 13th ed. New York: McGraw-Hill*
- *Halim, A. (2008). Human Anatomy: Volume I: Upper Limb And Thorax. IKInternational Pvt Ltd.*

Hallam, J. (2009). Grey's Anatomy: Scalpels, sex and stereotypes. Medical Humanities, 35(1), 60-61

Course Title: General Physiology (Practical)

Course Code: BDH105

L	T	P	Cr.
0	0	4	2

Total Hours 30

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

1. Explain the fundamental processes that occur within cells, including cellular respiration, membrane transport, and cellular communication.
2. Describe the structure and function of major organ systems in the human body, such as the cardiovascular, respiratory, nervous, and endocrine systems.
3. Demonstrate the properties of nerve fibers, function of neuralgia, synapse, CNS, CSF, brain, cranial nerves, demonstration of reflexes.
4. Provide knowledge about functioning of Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas, help in employability

List of Practical's / Experiments: 30 Hours

1. Introduction to laboratory equipment and techniques
2. Demonstration of-Basic physiological terminology, anatomical position, anatomical planes, levels of organization in the body, organ systems, skeleton, cavities of the body.
3. Lymphatic system - Features of lymph vessels, lymphatic tissue & organs, lymphatics, spleen, tonsil, thymus.
4. Nervous system - Central nervous system, brain, cerebellum, spinal cord, cranial nerves, autonomic nervous system.
5. Muscular system - Skeletal muscle, cardiac muscle, smooth muscle, muscles of the body.
6. Skeletal system - Features of bones, axial skeleton, appendicular skeleton.
7. Musculoskeletal system - Joints of upper & lower limb.
8. Respiratory system - Nose & paranasal sinuses, pharynx, larynx, trachea, lungs.
9. Cardiovascular system - Heart & blood vessels.
10. Digestive system - Oral cavity, pharynx, salivary glands, oesophagus, stomach, small intestine, large intestine, liver, gallbladder, pancreas.
11. Urinary system - Kidneys, juxtaglomerular apparatus,

Ureter, urinary bladder, urethra.

12. Introduction to genetics - Features of chromosomes, DNA.
13. Reproductive system in females - External & internal genital organs, breast.
14. Reproductive system in males - Penis, scrotum, testes, prostate gland.
15. Endocrine system - Hormones, pituitary gland, thyroid gland, parathyroid glands, adrenal glands, endocrine pancreas.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Ashalatha, P. R., &Deepa, G. (2012). Textbook of Anatomy & Physiology for Nurses. JP Medical Ltd.*
- *Chatterjee, C. C. (2020). Human Physiology. (13 th edition). CBS Publisher and Distributor Pvt. Ltd.Colorimetry*
- *Heilbrunn, L. V. (1952). General physiology. Saunders, Philadelphia.*
- *Hall, J. E. 1. (2016). Guyton and Hall textbook of* medical physiology *(13th edition.). Philadelphia, PA: Elsevie*

Course Title: Introduction to Dental Hygiene (Practical)

Course Code: BDH106

L	T	P	Cr.
0	0	4	2

Total Hours 30

Learning Outcomes: After completion of this course, the successful learnerwill be able to:

1. Explain the roles and responsibilities of a dental hygienist within the healthcare team, including their scope of practice, ethical obligations, and professional responsibilities.
2. Demonstrate an understanding of infection control protocols and the importance of maintaining a safe and sterile environment in dental practice.
3. Identify the fundamental instruments and tools used in dental hygiene practice and explain their specific functions.
4. Describe the importance of preventive dentistry and the role of the dental hygienist in promoting oral health and preventing dental diseases, such as caries, periodontal disease, and oral cancer..

Course Contents

Practical/Clinical posting **30 Hours**

1. To learn and demonstrate proper infection control protocols to prevent cross-contamination in a clinical setting.
2. To understand the principles of proper patient and operator positioning during dental procedures to ensure comfort and prevent musculoskeletal strain.
3. To learn the identification, functions, and safe handling of dental hygiene instruments.
4. To practice performing a thorough intraoral and extraoral examination to assess oral health status.
5. To learn the methods of charting dental and periodontal conditions, including restorations and missing teeth.
6. To introduce the technique of scaling and polishing for the removal of plaque, calculus, and stains.
7. To understand the basics of dental radiography, including radiation safety, positioning, and interpretation of images.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer Answer

Suggested Readings

- *Clinical Cases in Dental Hygiene" by Cheryl M. Westphal Theile and Sharry M. Shaleen*
- *Darby and Walsh Dental Hygiene E-Book" by Denise M. Bowen and Jennifer A. Pieren.*
- *Textbook of Periodontics" by Herbert F. Wolf, Thomas M. Hassell, and Walter Rateitschak*

Course Title- Communication and soft Skills
Course Code:...BDH107

L	T	P	Cr
2	0	0	2

Total Hours 30

Course Learning Outcomes: On completion of this course, the successful students
will be able to:
1. Developing presentation skills involves organizing content, using visual aids
effectively, maintaining audience engagement, and delivering information confidently and persuasively.
2. Critical thinking involves analyzing information, evaluating arguments, and
presenting logical and well-supported ideas.
3. Speak fluently and clearly is crucial for effective communication. This includes
using appropriate vocabulary, grammar, pronunciation, and intonation to convey messages accurately.
4. Involve paying attention, asking clarifying questions, and demonstrating understanding through appropriate responses.

UNIT-I **10 Hours**

Basics of Grammar- Part I Vocabulary, Synonyms, Antonyms, Prefix and Suffix,
Homonyms, Analogies and Portmanteau words. Basics of Grammar – Part II Active, Passive, Direct and Indirect speech, Prepositions, Conjunctions and
Euphemisms.

UNIT-II **05 Hours**

Writing Skills, Letter writing, E mail, and Essay, Articles, and
Memos, one word substitutes, note making and Comprehension.

UNIT-III **10 Hours**

Communication: Introduction: Communication process, Elements of communication,
Barriers of communication and how to overcome them, Nuances for communicating
with patients and their attenders in hospitals.

UNIT-IV **05 Hours**

Non Verbal Communication: Basics of non-verbal communication, Rapport building

skills using neuro- linguistic programming (NLP).

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested Readings:

- *The Elements of Style" by William Strunk Jr. and E.B. White*
- *How to Win Friends and Influence People" by Dale Carnegie*
- *Crucial Conversations: Tools for Talking When Stakes Are High" by Kerry*
    - *Patterson, Joseph Grenny, Ron McMillan, and Al Switzler*
    - *On Writing Well" by William Zinsser*

Course Title: Human Rights and Duties

Course Code: BDH108

L	T	P	Cr.
3	0	0	3

Total Hours 45

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

1. To understand the concept of human rights and their historical development.
2. To examine the philosophical and ethical foundations of human rights and duties.
3. To analyze international legal frameworks and mechanisms for the protection of human rights.
4. To explore contemporary issues and challenges in the field of human rights.

Course Contents

UNIT-I **15 Hours**

Introduction to Human Rights, Definition and historical evolution of human rights, Universal Declaration of Human Rights (UDHR) and its significance, Cultural relativism vs. universalism in human rights discourse, Theories of natural law, social contract, and human dignity, Debates on the universality and cultural specificity of human rights, Relationship between rights and moral duties.

UNIT-II **10 Hours**

 International human rights law: treaties, conventions, and customary law, Regional human rights systems (e.g., European Convention on Human Rights, African Charter on Human and Peoples' Rights), National constitutions and domestic protection of human rights, Right to life, liberty, and security, Freedom of expression, assembly, and association, Right to a fair trial and due process.

UNIT-III **10 Hours**

 Right to education, healthcare, and social security, Right to work, just and favorable conditions of work, and adequate standard of living, Challenges in realizing economic and social rights, Rights of indigenous peoples, Rights of minorities and marginalized groups, Intersectionality and multiple forms of discrimination.

UNIT-IV **10 Hours**

 Human rights violations in armed conflicts and humanitarian crises, Gender equality and women's rights, Rights of refugees, migrants, and stateless persons, Strategies for promoting and defending human rights, Role of civil society organizations, NGOs, and grassroots movements, Ethical dilemmas and challenges in human rights advocacy

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question

Suggested readings

- *"The Idea of Human Rights" by Charles R. Beitz*
- *"Just and Unjust Wars" by Michael Walzer*
- *"The Ethics of Authenticity" by Charles Taylor*
- *"Global Justice: A Cosmopolitan Account" by Gillian Brock*

Course Title: Biomedical waste Management

Course Code: BDH109

L	T	P	Cr.
3	0	0	3

Total Hours

45

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

1. Comprehend the fundamental properties of ionizing radiation, including the differences between alpha, beta, gamma, and X-ray radiation.
2. Explain the units and measurements used in radiation physics, including concepts like exposure, absorbed dose, dose equivalent, and activity.
3. Explore various waste management methods, including segregation, storage, transportation, treatment, and disposal.
4. Gain proficiency in the use of various radiation detection instruments and techniques, such as Geiger-Muller counters, scintillation detectors, and dosimeters.

Course Contents

UNIT-I **10 Hours**

Introduction to Biomedical Waste Management Definition and classification of biomedical waste Historical overview and importance of biomedical waste management Legal and regulatory framework Types and Sources of Biomedical Waste Classification of biomedical waste based on infectious, hazardous, and general waste.

UNIT-II **10 Hours**

Health Hazards and Risks Potential and hazards associated with improper biomedical waste management, Infection control and prevention measures Waste Segregation and Collection Segregation guidelines and color coding Collection methods and container types

UNIT-III **15 Hours**

Waste Disposal and Environmental Impact Landfilling, landfill requirements, and considerations Environmental consequences of improper waste disposal Waste-to-energy and recycling options Storage and Transportation Storage requirements and guidelines Transportation regulations and safety measures Treatment Technologies Overview of treatment methods: autoclaving, incineration, chemical disinfection, etc. Emerging technologies and advancements in waste treatment

UNIT-IV **10 Hours**

Waste Management Planning and Implementation Developing waste management plans for healthcare facilities Staff training and awareness programs monitoring and auditing waste management

practices, Biomedical Waste Management Rules 2016.

Bhattacharya, S., Biswas, S., Das, D., & Nair, P. (2019). Biomedical waste management in India: Critical appraisal. Journal of International Environmental Application & Science, 14(2), 91-97.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Prüss-Üstün, A., &Rapiti, E. (2008). Safe management of wastes from health-care activities. World Health Organization.*
- *Srivastava, A., & Kaushal, R. K. (2020). Biomedical waste management during COVID-19 pandemic: A review. Environmental Sustainability and Resource Management, 2(1), 53-61.*

Rao, P. V., & Patnaik, S. K. (2016). Biomedical waste management: An exploratory study. International Journal of Environmental Science and Technology, 13(7), 1607-161

Course Title: Introduction to Quality & Patient Safety

L	T	P	Cr.
3	0	0	3

Course Code: BDH110

Total Hours 45

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

1 Implement the quality improvement approaches, NABH, NABL , JCI guidelines.

2 Rescue the patients by the basic life support skills which can sav e manylives in urgent cases Apply proper disposals of biomedical waste, reducing risk of infec tion towaste handling personnel

3 Control cross infection which can occur due to improper handl ing ofinfected waste polluting surroundings too.

4 Focus on the quality measures and proper handling of disposals providing quality facility to patients.

Course Contents

UNIT-I **15 Hours**

Quality Assurance and Management Introduction, Quality improvement approaches, stan dards and norms, quality improvement tools, introduction to NABH guidelines. Basic of Emergency Care and Life Support Skills Basic lif e support (BLS) following cardiac arrest, recognition of sudden ca rdiac arrest andactivation of emergency response system, early c ardiopulmonary resuscitation (CPR) and rapid defibrillation with an automated external defibrillator (AED)

UNIT-II **10 Hours**

Basic Emergency Care First aid, choking, rescue breathing methods, ventilation including use of bag valve master (BVMs)

UNIT-III **10 Hours**

Biomedical Waste Management Definition, waste minimization, BMW- segregation, collection, transportation, treatment and disposal (Inc luding color coding), Liquid BMW, Radioactive waste, metals/chemi cals/drug waste, BMW management and methods of disinfection, u se of Personal protective equipment (PPE)

UNIT-IV **10 Hours**

Infection Prevention and Control Sterilization, Disinfection, Effective hand hygiene, use of PPE, Prevention and control of common
health care associated infections, Guidelines (NABH) and JCI for ho spital infection control.
Disaster preparedness and management Fundamentals of emergen cy management

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested readings

SchrieferJ.&Leonard, M.S.(2012). Patient safety and quality improvement: an overview of QI. Pediatrics in review,

· *Yamin, T. (2013). Chemical & Biological Weapons: Positions, Prospects and Trends. Policy Perspectives,*

· *Datta, P., Mohi, G., &Chander, J. (2018). Biomedical waste management in*

· *India: Critical appraisal. Journal of laoratory physicians,*

Semester 2nd

Course Title: Periodontology-I

Course Code: BDH201

L	T	P	Cr.
4	0	0	4

Total Hours 60

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

1. Understand the structure, function, and components of the periodontium, including gingiva, periodontal ligament, cementum, and alveolar bone.
2. Identify the primary etiologic factors in periodontal disease, such as dental plaque and calculus, and explain how they contribute to periodontal inflammation.
3. Understand and apply the current classification system for periodontal diseases and conditions, including chronic periodontitis, aggressive periodontitis, and necrotizing periodontal diseases.
4. Understand the principles of maintaining periodontal health through effective plaque control and patient education.

UNIT I **15 Hours**

Introduction to Periodontology, Definition and history of periodontology, Scope of periodontology in dental practice, Relationship of periodontology to overall health and dental care, Anatomy of the Periodontium, Components of the periodontium: gingiva, periodontal ligament, cementum, and alveolar bone, Functions of the periodontium in maintaining oral health, Microscopic and macroscopic structures of periodontal tissues

UNIT II **15 Hours**

Etiology of Periodontal Diseases, Microbiology of Periodontal Diseases, Dental plaque biofilm: formation, composition, and maturation, Pathogenic bacteria involved in periodontal diseases, Calculus: formation, types, and its role in periodontal disease progression, Local and Systemic Risk Factors, Local factors: calculus, faulty restorations, malocclusion, Systemic risk factors: diabetes, smoking, genetics, medications, Host immune response to periodontal pathogens

UNIT III **15 Hours**

Gingival Diseases, Gingivitis – Clinical Presentation and Pathogenesis, Characteristics of gingivitis (clinical, histological), Types of gingivitis (plaque-induced, non-plaque-induced), Reversible nature of gingivitis and treatment approaches, Management of Gingival Diseases, Preventive measures for gingivitis: oral hygiene practices, Role of professional cleaning in gingival health, Patient education and behavior modification

UNIT IV **15 Hours**

Periodontal Diseases, Periodontitis – Pathogenesis and Progression

Differentiating between gingivitis and periodontitis, Stages of periodontal disease: initial, moderate, and severe periodontitis, Mechanisms of tissue destruction in periodontitis, Classification of Periodontal Diseases, Overview of the classification system (AAP/World Workshop), Chronic periodontitis vs. aggressive periodontitis, Necrotizing periodontal diseases and their clinical presentation

Transactional modes

Video based teaching, Collaborative teaching, Case based Teaching.

Suggested readings

- *Carranza's Clinical Periodontology, Michael G. Newman, Henry Takei, Perry R. Klokkevold, and Fermin A. Carranza*
- *Clinical Periodontology and Implant Dentistry, Jan Lindhe, Niklaus P. Lang, and Thorkild Karring*
- *Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation, Jill S. Gehrig*

Course Title: Dental Radiology

Course Code: BDH202

L	T	P	Cr.
4	0	0	4

Total Hours 60

Learning Outcomes: By the end of this course, students will be able to:

1. Understand the fundamental concepts of radiation physics and radiation safety.
2. Demonstrate proficiency in intraoral and extraoral radiographic techniques.
3. Analyze and interpret dental radiographs for diagnostic purposes.
4. Apply knowledge of radiographic anatomy to clinical scenarios.
5. Understand the ethical and legal considerations in dental radiology.

UNIT I **15 Hours**

Fundamentals of Radiation Physics, Introduction to Dental Radiology, History of dental radiography. Importance in modern dental practice. Radiation Physics. Nature of x-rays and electromagnetic radiation. Production of x-rays. Interaction of x-rays with matter. Radiation Biology and Protection. Biological Effects of Radiation. Cellular effects of radiation. Short-term vs. long-term effects. Radiation Protection. Principles of radiation protection.ALARA (As Low As Reasonably Achievable) principle.Protection for patients and personnel.

UNIT II **15 Hours**

Dental X-ray Equipment and Imaging. X-ray Equipment.Components and functions of dental x-ray machines,Quality assurance and maintenance. Image Receptors and Processing.Film-based vs. digital receptors.Image processing techniques (manual and digital).Common image artifacts and how to avoid them.Intraoral Radiographic Techniques , Intraoral Radiography – Periapical and Bitewing Techniques,Principles and techniques,Film positioning and angulation Intraoral Radiography – Occlusal Techniques,Special views for occlusal radiography, Errors in Intraoral Radiography and Common errors and how to correct them.

UNIT III **15 Hours**

Extraoral Radiographic Techniques, Panoramic Radiography,Principles and indications,Image distortion and artifacts, Cephalometric Radiography,Uses in orthodontics and surgical planning,Anatomic landmarks. Radiographic Interpretation,Normal Radiographic Anatomy,Identification of normal anatomical structures in radiographs,Differentiating normal vs. pathological findings.Radiographic Pathology – Caries, Periodontal Disease, and Pulpal Pathologies.Radiographic diagnosis of common dental pathologies. Radiographic Pathology – Bone Lesions and Developmental Abnormalities. Diagnosis of cysts, tumors, and developmental conditions.

UNIT IV **15 Hours**

Specialized Imaging Techniques,Cone Beam Computed Tomography (CBCT) and Other Advanced Imaging,Indications and contraindications of CBCT,Interpretation of 3D imaging for diagnosis and treatment planning. Ethical, Legal, and Practical Considerations, Legal and Ethical Aspects of Dental Radiography.Informed consent.Record-keeping and legal requirements.Case studies on ethics in radiology

Transactional modes

Video based teaching, Collaborative teaching, Case based Teaching

Suggested readings

- *K.Thalayan, Basic of Radiological Physics*
- *Essentials of Dental Radiography and Radiology, Eric Whaites and Nicholas Drage*
- *Radiographic Interpretation for the Dental Hygienist, Joen Iannucci and Laura Jansen Howerton*

Course Title: Periodontology-I(Practical)
Course Code: BDH203

L	T	P	Cr.
0	0	4	2

Total Hours 30

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

1. Demonstrate the ability to perform a comprehensive periodontal examination, including accurate probing and assessment of periodontal tissues.
2. Identify and assess clinical signs of gingivitis and periodontitis, demonstrating an understanding of normal versus pathological findings.
3. Identify and demonstrate the proper use of various periodontal instruments, including scalers and curettes.
4. Develop individualized periodontal maintenance plans based on clinical assessments and patient needs.

Course Contents

Practical/Clinical posting **30 Hours**

1. Conduct a complete periodontal examination.
2. Familiarize students with the tools and techniques used for periodontal charting.
3. Evaluate clinical signs of gingivitis and periodontitis.
4. Analyze radiographs for periodontal assessment.
5. Understand the instruments used in periodontal therapy.
6. Learn scaling and root planing methods.
7. Understand the components of periodontal maintenance therapy.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested readings

- *Periodontology for the Dental Hygienist, Dorothy A. Perry and Phyllis L. Beemsterboer*
- *Essentials of Clinical Periodontology and Periodontics, Shantipriya Reddy*
- *Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation, Jill S. Gehrig*

Course Title: Dental Radiology (practical)

Course Code: BDH204

L	T	P	Cr.
0	0	4	2

Total Hours 30

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

1. Demonstrate proficiency in the selection and use of appropriate radiographic techniques for various dental procedures (e.g., periapical, bitewing, panoramic).
2. Apply principles of radiation safety to protect patients, staff, and self during radiographic procedures.
3. Demonstrate the ability to process both film-based and digital radiographs, ensuring high-quality diagnostic images.
4. Analyze radiographs to identify normal anatomical landmarks and pathological conditions, including caries, periodontal disease, and anomalies.

Course Content

Practicals **30 Hours**

1. Familiarize students with the components and functions of radiographic equipment.
2. Perform periapical radiographic techniques.
3. Understand and perform panoramic imaging techniques.
4. Demonstrate film processing techniques.
5. Process digital radiographs and optimize image quality.
6. Conduct quality control checks on radiographic equipment.
7. Identify normal anatomical landmarks on radiographs.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Clark, Radiographic Positioning and Special Procedure*
- *Essentials of Dental Radiography and Radiology, Eric Whaites and Nicholas Drage*
- *Dental Radiography: Principles and Techniques, Joen Iannucci and Laura Jansen Howerton*

Course Title: Environmental Science
Course Code: BDH205

L	T	P	Cr.
2	0	0	2

Total Hours: 30

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

1. Discuss about natural resources and associated problems, use and over exploitation.

2. Demonstrate the causes, effects and control measures of air pollution, water pollution, soil pollution, marine pollution, noise pollution.

3. Provide knowledge about the concept of ecosystem, structure, interrelationship of producers, consumers and decomposers,

4. Describe the issues involved in enforcement of environmental legislation Public awareness

UNIT-I **10 Hours**

Introduction: Definition and scope and importance of multidisciplinary nature of environment. Need for public awareness. Natural Resources - Natural Resources and associated problems, use and over exploitation, case studies of forest resources and water resources.

UNIT-II **10 Hours**

Ecosystems: Concept of Ecosystem, Structure, interrelationship, producers, consumers and decomposers, ecological pyramids-biodiversity and importance. Hotspots of biodiversity.

Environmental Pollution: Definition, Causes, effects and control measures of air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards

UNIT-III **05 Hours**

Solid waste management: Causes, effects and control measure of urban and industrial wastes. Role of an individual in prevention of pollution. Pollution case studies, Disaster management: Floods, earthquake, cyclone and landslides. Case studies, Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion,. Environment Protection Act, Air (Prevention and Control of Pollution) Act. Water (Prevention and control of pollution) Act. Wildlife Protection Act, Forest Conservation Act.

UNIT-IV **05 Hours**

Human Population and the Environment, Population growth, variation among nations. Population explosion–Family Welfare Programme. Environment and human health, Human Rights, Value Education, HIV/AIDS. Women and child Welfare, Role of Information Technology in Environment and human health. Case studies. Understanding the Hospital Environment, Infectious material, Toxic Chemicals, Radioactive Material, Other miscellaneous waste

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Vincent, C. (2011). Patient safety. John Wiley & Sons.*
- *Hall, L. M. (Ed.). (2005). Quality work environments for nurse and patient safety. Jones & Bartlett Learning.*
- *Sandars, J., & Cook, G. (Eds.). (2009). ABC of patient safety (Vol. 72). John Wiley & Sons.*
- *Carayon, P. (2006). Handbook of human factors and ergonomics in health care and patient safety. CRC press.*

Course Title: First Aid

Course Code: BDH206

L	T	P	Cr.
2	0	0	2

Total Hours 45

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

1. Provide appropriate first Aid for minor injuries including small cuts, grazes,

bruises etc.

2. Assess situations and circumstances in order to provide First Aid safely,

promptly and effectively in a range of emergencies.

3. Manage organizations, records related to patients and departmental

statistics.

4 Administer First Aid to an adult who is choking.

Course Contents

UNIT-I **10 Hours**

Introduction to First Aid Definition and importance of first aid, Role and responsibilities of a first aider, Legal and ethical considerations, Basic Life Support (BLS).

UNIT-II **05 Hours**

- **Primary survey (DRABC)**
  - Danger
  - Response
  - Airway
  - Breathing
  - Circulation
- **Secondary survey**
- **Cardiopulmonary Resuscitation (CPR)**
  - Adults
  - Children
  - Infants

UNIT-III **10 Hours**

Medical Conditions

- **Heart attack**
  - Signs and symptoms
  - First aid response
- **Stroke**

- Recognition (FAST method)
- Immediate actions

- **Diabetes**
  - Hypoglycemia
  - Hyperglycemia
  - First aid response

UNIT-IV **10 Hours**

Managing Common Medical Emergencies

- **Choking**
  - Adult
  - Child
  - Infant

- **Bleeding and wound care**
  - Types of bleeding (arterial, venous, capillary)
  - Control methods (pressure, elevation, bandaging)

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Alton, J., & Alton, A. (2016). The Survival Medicine Handbook: A Guide for When Help is Not on the Way. Doom and Bloom..*
- *American Heart Association. (2020). Basic Life Support (BLS) Provider Manual. American Heart Association.*
- *American Red Cross. (2016). First Aid/CPR/AED Participant's Manual. American Red Cross.*

Course Title: Health Education and Health Communication
Course Code: BDH208

L	T	P	Cr.
3	0	0	3

Total Hours 45

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

1. Demonstrate the importance of health education and health communication in promoting individual and community health.
2. Identify key theories and models related to health behavior change.
3. Explore different communication strategies and techniques used in health education.
4. Develop skills in designing and implementing health education programs.

Course Contents

UNIT-I **10 Hours**

Introduction to Health Education and Health Communication, Importance and goals of health education, Role of health communication in behaviour change, Historical perspectives on health education and communication

UNIT-II **10 Hours**

Theories and Models of Health Behavior Change Social cognitive theory, Transtheoretical model, Health belief model, Ecological model, Effective Communication Strategies, Principles of effective communication

UNIT-III **10 Hours**

Designing Health Education Programs, Assessing needs and setting objectives, Developing educational materials, Planning and implementing health education programs, Evaluating program effectiveness, Verbal and non-verbal communication, Health literacy and plain language, Cultural competence in communication

UNIT-IV **15 Hours**

Media and Technology in Health Communication, Role of media in health communication, Social media and online platforms, Health campaigns and mass media interventions, Ethical considerations in media use, Ethical and Cultural Considerations in Health Education, Ethical guidelines and principles, Informed consent and confidentiality, Health communication with vulnerable populations, Evaluation of Health Education and Communication Interventions.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Bandura, A. (2004).Health promotion by social cognitive means. Health Education & Behavior, 31(2), 143-164.*
- *Brashers, D. E., Haas, S. M., &Neidig, J. L. (2014). Health communication and the social networks of older adults: Implications for health and aging. In R. N. Bostrom & B. H. Westley (Eds.), Communication and aging (pp. 193-222). Routledge.*
- *Freimuth, V. S., Quinn, S. C., Thomas, S. B., Cole, G., Zook, E., & Duncan, T. (2001). African Americans' views on research and the Tuskegee Syphilis Study. Social Science & Medicine, 52(5), 797-808.*
- *Kreps, G. L., & Sparks, L. (2008). Meeting the health literacy needs of immigrant populations. Patient Education and Counseling, 71(3), 328- 332*

Course Title: Basic Fundamental of Computers

Course Code: BDH209

L	T	P	Cr.
3	0	0	3

Total Hours 45

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

1. The students will be able to appreciate the role of computer technology.

2. The course has focus on computer organization, computer operating system and software, MS windows, Word processing, Excel data worksheet and PowerPoint presentation

3. MS windows, Word processing, Excel data worksheet and PowerPoint presentation

4. the students will be able to make power point presentations.

Course Contents

UNIT-I **15 Hours**

Introduction to Computer:

Introduction, characteristics of computer, block diagram of computer, generations of computer, computer languages.

Input output Devices: Input devices(keyboard, point and draw devices, data scanning devices, digitizer, electronic card reader, voice recognition devices, vision-input devices), output devices(monitors, pointers, plotters, screen image projector, voice response systems).

UNIT-II **10 Hours**

Processor and Memory: The Central Processing Unit (CPU), main memory. Introduction of windows: History, features, desktop, taskbar, icons on the desktop, operation with folder, creating shortcuts, operation with windows (opening, closing, moving, resizing, minimizing and maximizing, etc.).

UNIT-III **10 Hours**

Introduction to MS-Word: Introduction, components of a word window, creating, opening and inserting files, editing a document file, page setting and formatting the text, saving the document, spell checking, printing the document file, creating and editing of table, mail merge

Introduction to Excel: Introduction, about worksheet, entering information, saving workbooks and formatting, printing the worksheet, creating graphs

UNIT-IV **10 Hours**

Introduction to power-point: Introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Norton, P. (2006). Introduction to Computers. McGraw-Hill Education.*
- *Lotia, M., & Nair, P. (2006). Computer Peripherals and Interfaces. BPB Publications.*
- *Patterson, D. A., & Hennessy, J. L. (2013). Computer Organization and Design: The Hardware/Software Interface. Morgan Kaufmann.*
- *Lowe, D. (2018). PowerPoint 2019 For Dummies. For Dummies*
- *Pogue, D. (2015). Windows 10: The Missing Manual. O'Reilly Media.*

Course Title: Medical Terminology and Record Keeping	L	T	P	Cr.
Course Code: BDH210	**3**	**0**	**0**	**3**

Total Hours: 45

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

1. Students will demonstrate the ability to maintain accurate, detailed, and up-to-date patient records, ensuring compliance with legal and regulatory standards.
2. Students will be able to apply legal and ethical guidelines in their record-keeping practices, ensuring patient privacy and data security..
3. Students will be able to effectively document patient information, including medical histories, diagnoses, treatment plans, and follow-up care, facilitating seamless communication and continuity of care among healthcare providers.

Course Contents

UNIT I **15 Hours**

Derivation of medical terms, Define word roots, prefixes, and suffixes, Conventions for combined morphemes and the formation of plurals, Basic medical terms, Form medical terms utilizing roots, suffixes, prefixes, and combining roots.

UNIT II **10 Hours**

Interpret basic medical abbreviations/symbols, Utilize diagnostic, surgical, and procedural terms and abbreviations related to the integumentary system, musculoskeletal system, respiratory system, cardiovascular system, nervous system, and endocrine system.

UNIT III **10 Hours**

Medical Record Keeping Basics, Introduction to medical record keeping, Components of a medical record, Documentation standards and best practices, Legal and Ethical Aspects of Medical Record Keeping, HIPAA regulations and patient confidentiality, Legal requirements for medical record documentation, Ethical considerations in record keeping

UNIT IV **10 Hours**

- EMR (Electronic medical records).
- HIS (Hospital information system).
- RIS (radiology information system).
- Case studies in medical record documentation

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *"Medical Terminology: A Short Course" by Davi-Ellen Chabner*
- *"The Language of Medicine" by Davi-Ellen Chabner*
- *"Medical Terminology for Health Professions" by Ann Ehrlich and Carol L. Schroeder*
- *"Medical Records and the Law" by William H. Roach Jr. and James E. Carbone.*

Course Title: Medical Ethics

Course Code: BDH211

L	T	P	Cr.
3	0	0	3

Total Hours 45

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

1 Familiarize with local, national, and international regulations, guidelines, and standards related to biomedical waste management, including compliance with waste disposal laws.

2 Learn the principles of effective waste segregation, including the proper sorting of biomedical waste into different categories based on its source, type, and risk level.

3 Develop skills in safely handling, packaging, and labeling biomedical waste to minimize exposure risks for healthcare workers, waste handlers, and the community.

4 Be prepared to respond to emergency situations involving biomedical waste spills, accidents, and contamination incidents.

Course Contents

UNIT-I **10 Hours**

Introduction to Medical Ethics: Definition and scope of medical ethics, Importance of ethical principles in healthcare, Historical development of medical ethics, Ethical Theories and Principles: Utilitarianism, Deontology, And Virtue ethics, Autonomy, Beneficence, Non-maleficence and Justice.

UNIT-II **10 Hours**

Role of medical laboratory Technician, Definition and Interaction with the patients and health care professionals, Ethical, Moral, and Legal Responsibilities, Patient safety and quality, restrain policies and role of health professionals, Biomedical waste Management, medical records and reports.

UNIT-III **15 Hours**

Medical terminology- The course employs a body systems-oriented, word- analysis approach to learning medical terminology. Confidentiality and Privacy: Importance of patient confidentiality, Legal and ethical aspects of patient privacy, Ethical dilemmas related to confidentiality and privacy

UNIT-IV **10 Hours**

The goal of the class is to prepare students for the terminology they

might encounter in their subsequent coursework, in their clinical rotations and ultimately in their roles as health care professionals.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested readings

- *Pozgar, G. D. (2012). Legal aspects of health care administration. Sudbury, Mass: Jones & Bartlett Learning*
- *Morrison, E. E., & Furlong, E. (2014). Health care ethics: Critical issues for the 21st century. Burlington, MA: Jones & Bartlett Learning.*
- *Kliegman, R., Stanton, B., St. Geme, J. W., Schor, N. F., & Behrman, R. E. (2016). Nelson textbook of pediatrics (Edition 20.). Phialdelphia, PA: Elsevier.*

Semester 3rd

Course Title: :Nutrition and Oral Health

Course Code: BDH301

L	T	P	Cr.
4	0	0	4

Total Hours 60

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

1. Understand the impact of nutrition on oral health.
2. Identify key nutrients and their roles in oral health.
3. Assess dietary practices and their influence on dental diseases.
4. Develop nutritional counseling strategies for patients.
5. Promote preventive oral health practices through nutrition education.

Course Contents

UNIT-I **15 Hours**

Introduction to Nutrition and Oral Health, Overview of course objectives and structure.The importance of nutrition in oral health. Historical perspectives on diet and dental disease.Nutritional Biochemistry, Basic concepts of macronutrients (carbohydrates, proteins, fats). Overview of micronutrients (vitamins and minerals) and their role in oral health.

UNIT-II **15 Hours**

Dietary Guidelines and Recommendations, Understanding dietary reference intakes (DRIs). Overview of national dietary guidelines (e.g., MyPlate, Dietary Guidelines for Americans).Carbohydrates and Oral Health, Role of sugars and starches in dental caries development. Discussing glycemic index and its impact on oral health.Proteins, Fats, and Oral Health, Importance of proteins and fats for tissue repair and immune function. The relationship between fatty acids and inflammation in periodontal disease.

UNIT-III **15 Hours**

Vitamins and Minerals Essential for Oral Health, Key vitamins (A, C, D, E) and their roles in oral tissues. The importance of calcium, phosphorus, and fluoride in oral health. Impact of Nutrition on Dental Diseases Dietary factors influencing caries and periodontal disease. Case studies of nutritional interventions in dental disease prevention.Nutritional Assessment and Counseling, Methods for assessing dietary intake (food diaries, 24-hour recall). Strategies for effective nutritional counseling in a dental setting.

UNIT-IV **15 Hours**

Nutrition Across the Lifespan, Nutritional needs and considerations for different age groups (children, adolescents, adults, elderly). Specific oral health challenges related to nutrition at various life stages.Nutrition for Special Populations Nutritional considerations for patients with specific conditions (diabetes, eating disorders, oral cancer). Understanding food texture modifications for patients with oral health issues**.**

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Nutrition and Oral Health, Anil K. Sharma*
- *Nutrition in Oral Health, David A. B. Lindhe and Niklaus P. Lang*
- *Diet and Dental Caries, Ole Fejerskov and Poul A. Kidd*
- *Dental Nutrition, Charlotte C. L. Schneider and John A. Cowell*

Course Title: :Clinical Dental Hygiene-I

Course Code: BDH302

L	T	P	Cr.
4	0	0	4

Total Hours 60

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

1. Learn basic dental hygiene clinical skills, including oral examinations and periodontal charting.
2. Develop patient management techniques and communication skills.
3. Understand the principles of infection control and ergonomics in the clinical setting.
4. Implement preventive strategies for managing common oral diseases.
5. Gain proficiency in using dental hygiene instruments and techniques for plaque and calculus removal.

Course Contents

UNIT-I **15 Hours**

Introduction to Clinical Dental Hygiene Overview of clinical dental hygiene roles and responsibilities. Introduction to patient care and infection control protocols. Professional Ethics and Communication, Importance of professionalism and patient communication. Ethical considerations in dental hygiene practice.

UNIT-II **15 Hours**

Infection Control and Patient Safety, Principles of infection control in the dental clinic. Use of personal protective equipment (PPE) and sterilization protocols. Dental Instruments and Equipment, Introduction to dental hygiene instruments (scalers, curettes, explorers, etc.). Proper handling, sterilization, and maintenance of instruments.

UNIT-III **15 Hours**

Extraoral and Intraoral Examination, Techniques for conducting extraoral and intraoral examinations. Recognition of normal and abnormal oral tissues. Periodontal Examination and Charting, Introduction to periodontal probing and charting. Identifying signs of periodontal disease and soft tissue conditions.

UNIT-IV **15 Hours**

Plaque and Calculus Removal, Techniques for plaque biofilm and calculus removal using hand instruments. Introduction to ultrasonic scalers and their clinical use. Patient Assessment and Medical History Review, Collecting and reviewing medical and dental history. Importance of understanding patient health conditions and medications.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Clinical Practice of the Dental Hygienist, Esther M. Wilkins*
- *Darby and Walsh Dental Hygiene: Theory and Practice, Denise M. Bowen and Jennifer A. Pieren*
- *Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation, Jill S. Nield-Gehrig*

Course Title: Nutrition and Oral Health (Practical)
Course Code: BDH303

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

Develop practical skills in assessing the nutritional status of patients as it relates to oral health.

Understand the role of specific nutrients in maintaining oral health and preventing dental diseases.

Implement dietary counseling strategies for patients with various oral health conditions.

Gain experience in using tools and techniques to educate patients on nutrition and oral care.

Practical/Clinical posting 30 Hours

1. Introduction to methods of dietary and nutritional assessment in clinical practice.
2. Practical identification of macronutrients (carbohydrates, proteins, fats) in common foods.
3. Understanding how macronutrients impact oral health (e.g., carbohydrates and caries development).
4. Exploration of essential vitamins and minerals for oral health (e.g., calcium, vitamin D, fluoride).
5. Assessing dietary sources of key micronutrients.
6. Understanding the role of diet in the development and prevention of dental caries.
7. · Identifying cariogenic and non-cariogenic foods.
8. Identifying the signs of malnutrition and its effects on oral tissues (e.g., glossitis, angular cheilitis).

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Nutrition and Oral Health, Anil K. Sharma*
- *Dental Nutrition: A Guide for Dental Professionals, Jill Gehrig and Cindy Kleiman*
- *Essentials of Nutrition and Diet Therapy,Eleanor Noss Whitney and Sharon Rady Rolfes*

Course Title: Clinical Dental Hygiene-I (Practical)

Course Code: BDH304

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

Develop foundational clinical skills in dental hygiene procedures and patient management.

Demonstrate competency in using dental instruments for basic oral hygiene procedures.

Apply infection control protocols in a clinical environment.

Perform comprehensive patient assessments, including health history, oral examination, and risk assessment.

Course Contents

Practical/Clinical posting **30 Hours**

1. Introduction to clinical hygiene equipment and instrumentation.
2. Demonstration: Patient positioning and ergonomics in the clinical setting.
3. Practical demonstration: Proper hand hygiene and instrument sterilization.
4. Activity: Set up and breakdown of a clinical operatory following infection control guidelines.
5. Practical activity: Simulating patient interviews and performing basic oral exams.
6. Identification and use of basic hand instruments (explorers, probes, scalers).
7. Practical activity: Instrument grasp, fulcrum, and basic instrumentation techniques on typodonts.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Clinical Practice of the Dental Hygienist, Esther M. Wilkins*

- *Darby and Walsh Dental Hygiene: Theory and Practice, Denise M. Bowen and Jennifer A. Pieren*

- *Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation, Jill S. Nield-Gehrig*

Course Title: Pharmacology for Dental Hygienists

Course Code: BDH305

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Understand the basic principles of pharmacology and its application in dental hygiene.
2. Identify commonly prescribed medications and their uses in dental care.
3. Recognize the pharmacokinetics and pharmacodynamics of drugs relevant to dental hygiene.
4. Assess potential drug interactions and contraindications in patient care.
5. Apply knowledge of pharmacology to inform patient education and management strategies

Course Contents

UNIT I **15 Hours**

Introduction to Pharmacology, Overview of pharmacology and its importance in dental hygiene. Basic pharmacological terms and concepts (pharmacokinetics, pharmacodynamics).Drug Classifications and Mechanisms of Action, Introduction to major drug classifications.
Mechanisms of action of commonly used medications. Pharmacokinetics
Absorption, distribution, metabolism, and excretion of drugs. Factors influencing pharmacokinetics (age, weight, health status).

UNIT II **10 Hours**

Pharmacodynamics, Understanding drug effects, therapeutic vs. adverse effects.Dose-response relationships and drug efficacy. Local Anesthetics in Dentistry, Types and mechanisms of local anesthetics. Indications, contraindications, and administration techniques.

UNIT III **10 Hours**

Analgesics and Anti-inflammatory Medications, Opioids and non-opioids: uses and side effects. The role of NSAIDs and acetaminophen in dental practice. Antibiotics in Dental Hygiene. Overview of commonly prescribed antibiotics. Indications for use, resistance, and implications for treatment. Antimicrobial Agents and Oral Rinses Role of antimicrobial mouthwashes in oral hygiene. Understanding chlorhexidine and its applications.

UNIT IV **10 Hours**

Medications for Medical Conditions, Management of patients with chronic diseases (hypertension, diabetes). Considerations for dental hygiene care. Patient Medications and Drug Interactions, Assessing patient medication histories. Understanding potential drug interactions and implications for care. Emergency Medications in Dental Practice, Overview of medications used in dental emergencies (epinephrine, nitroglycerin). Protocols for managing medical emergencies in the dental setting.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Applied Pharmacology for the Dental Hygienist, Elena Bablenis Haveles*
- *Mosby's Dental Drug Reference, Arthur H. Jeske*
- *Pharmacology and Therapeutics for Dentistry, Frank J. Dowd, Bart Johnson, and Angelo Mariotti*

Course Title Disaster Management

Course Code: BDH307

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

4. Describe the concepts and point out the main aspects of emergencies, emergencies and catastrophes
5. Determine the fundamentals of urgent and emergency health care
6. Apply clinical and non-clinical skills in emergency and disaster medicine
7. Provide Knowledge about the importance of medical records in the emergency department and understand the most relevant legal and ethical aspects of health care in Emergencies

Course Contents

UNIT-I **15 Hours**

Definitions and Concepts, Comprehensive study of Health Emergencies, Bioethics in Accidents, Emergencies and Disasters, Communication Skills in Emergencies, Patient Safety, Biosafety dangerous materials, Management of waste products, New professional skills in Accidents & Emergency Care.

UNIT-II **10 Hours**

Team work Communication & Leadership, Personal & Professional Digital Skills, New Technologies in accident & Emergency Care, CBRN incidents, CBRN risks, Handling of an CBRN incidents

UNIT-III **10 Hours**

Organization of emergency medical systems, Coordination and Health regulation, Information and Record systems, Types of medical transport

UNIT-IV **10 Hours**

General Concepts Security, Scene, Situation, IMV management & Disasters Organization, Communication, Deployment & Logistics, Sectorization Triage

Health care, Evacuation

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *A.K. Srivastava Text book of disaster management*
- *Rajendra Kumar Bhandari "Disaster education and management*

Course Title: Local Anaesthesia and Pain Management
Course Code: BDH308

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Understand the pharmacology of local anesthetics and vasoconstrictors.
2. Learn the anatomy of the head and neck related to nerve blocks and local anesthesia administration.
3. Develop the skills necessary for the safe and effective administration of local anesthesia.
4. Manage pain and anxiety in dental patients using pharmacologic and non-pharmacologic techniques.

Course Contents

UNIT-I **10 Hours**

Introduction to Local Anaesthesia and Pain Management, Course overview and learning objectives. History and development of local anesthesia in dentistry. Basic pain physiology and pain perception. Introduction to the concept of pain management in dental care.

UNIT-II **15 Hours**

Anatomy and Physiology Relevant to Local Anesthesia, Anatomy of the trigeminal nerve and its branches. Vascular and muscular structures relevant to local anesthesia. Review of head and neck anatomy. Pharmacology of Local Anesthetics, Mechanism of action of local anesthetics. Types of local anesthetic agents used in dentistry (e.g., lidocaine, articaine, bupivacaine). Pharmacokinetics and pharmacodynamics of local anesthetics. Role of vasoconstrictors in local anesthesia (e.g., epinephrine).

UNIT-III **10 Hours**

Administration Techniques – Infiltration Anesthesia, Overview of infiltration anesthesia and its applications. Techniques for administering infiltration anesthesia. Step-by-step demonstration of proper technique.Administration Techniques – Nerve Block Anesthesia (Mandibular Block). Principles of nerve block anesthesia. Anatomy of the mandibular nerve and mandibular block technique. Indications and contraindications for nerve block anesthesia.

UNIT-IV **10 Hours**

Administration Techniques – Nerve Block Anesthesia (Maxillary Block), Anatomy of the maxillary nerve and maxillary block technique. Common techniques (e.g., posterior superior alveolar, infraorbital, and nasopalatine nerve blocks). Local Anesthetic Complications. Systemic complications (e.g., toxicity, allergic reactions). Local complications (e.g., hematoma, paresthesia, trismus). Preventive measures and emergency management protocols.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

1. Local Anesthesia for the Dental Hygienist, Demetra D. Logothetis
2. Handbook of Local Anesthesia, Stanley F. Malamed
3. Essentials of Pain Management in Dentistry, Paul A. Moore

Course Title: Health care and Nutrition

Course Code: OEC016

L	T	P	Cr.
2	0	0	2

Total Hours: 30

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

1. Achieve a basic understanding of the major components of the current & potential health care delivery systems.
2. Anticipate the interaction of health care providers and diverse patients/families with the various components of the health care systems.
3. Describe the theories/models of leadership & management most effective in the current & potential health care systems.
4. Describe the communication styles of the primary health care providers, e.g., administrators, financial officers, managers, doctors, nurses, patients from low, moderate & high socioeconomic status.

Course Contents

UNIT: I **05 Hours**

Introduction to healthcare delivery system - Healthcare delivery system in India at primary, secondary and tertiary car; Community participation in healthcare delivery system; Health system in developed countries; Private / Govt Sector; National Health Mission; National Health Policy; Issues in Health Care Delivery System in India

UNIT: II **10 Hours**

National Health Programme- Background objectives, action plan, targets, operations, achievements and constraints in various National Heath Programme. Introduction to AYUSH system of medicine - Introduction to Ayurveda; Yoga and Naturopathy; Unani; Siddha; Homeopathy; Need for integration of various system of medicine

UNIT: III **05 Hours**

Health Scenario of India- past, present and future , Demography & Vital Statistics- Demography – its concept, Census & its impact on health policy

UNIT-IV **10 Hours**

Epidemiology - Principles of Epidemiology; Natural History of disease; Methods of Epidemiological studies; Epidemiology of communicable & non- communicable diseases, disease, transmission, host defence immunizing agents, cold chain, immunization, disease, monitoring and surveillance.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Buchbinder, S. B., & Thompson, J. M. (2010). Career opportunities in health care management: Perspectives from the field. Jones & Bartlett Publishers.*
- *Franco, O. H., Peeters, A., Bonneux, L., & De Laet, C. (2005). Blood pressure in adulthood and life expectancy with cardiovascular disease in men and women: life course analysis. Hypertension, 46(2), 280-286.*

Course Title: Medical Biochemistry

Course Code: OEC022

L	T	P	Cr.
2	0	0	2

Total Hours: 30

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

UNIT-I **10 Hours**

STRUCTURE & FUNCTION OF CELL: Structure& function of cell, Prokaryote& Eukaryote cell organization, Fluid Mosaic Model of cell membrane, Transport Mechanism, Acid Base Balance-maintenance, PH Buffers, Henderson – Hasselbalch equation and its applications

UNIT-II **05 Hours**

composition and metabolism of carbohydrate: Types, structure , composition and function, Monosaccharides, Disaccharides , Oligosaccharides, Polysaccharides.

UNIT-III **10 Hours**

composition and metabolism of lipids: Types, Structure, Composition and function of fatty acids, Nomenclature, Roles and Prostaglandins, Triacylglycerol's, phospholipids, Cholesterol, Metabolism of fatty acid , Breakdown, Synthesis, Biosynthesis & its regulation, Bile salts & bilirubin, Enzymes & Co-enzymes, Classification& function

UNIT-IV **05 Hours**

composition and function of amino acids and proteins-types , structure, composition and function of amino acid, Structural organization of proteins (basic understanding only), Classification and functions of proteins, Denaturation & Coagulation, Metabolism of Nitrogen, Fixation and Assimilation, Urea cycle

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *U. Satyanarayana, Text book for Biochemistry*
- *D.M Vasudevan, Text book for Biochemistry*
- *Illustrated Biochemistry by HARPER.*
- *Lehninger Principles of Biochemistry.*
- *Biochemistry by stryer*
- *Biochemistry by voet&voet*

Semester 4th

Course Title: Clinical Dental Hygiene-II

Course Code: BDH401

L	T	P	Cr.
4	0	0	4

Total Hours: 60

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

1. Enhance clinical proficiency in preventive, therapeutic, and supportive dental hygiene care.
2. Understand and manage care for patients with complex medical and dental needs.
3. Develop comprehensive treatment plans, including preventive and therapeutic interventions.
4. Improve advanced instrumentation techniques, including root surface debridement and periodontal maintenance.

Course Contents

UNIT-I **15 Hours**

Introduction to Advanced Clinical Dental Hygiene, Review of foundational concepts from Clinical Dental Hygiene-I. Introduction to advanced concepts in patient care and treatment planning. Clinical protocol and patient assessment review. Comprehensive Oral Examination and Risk Assessment Systematic approach to comprehensive oral examinations. Risk assessments for caries, periodontal disease, and oral cancer. Developing personalized treatment plans based on risk profiles.

UNIT-II **15 Hours**

Advanced Periodontal Instrumentation, Introduction to advanced instrumentation for periodontal debridement. Instrument sharpening and maintenance. Techniques for accessing deeper periodontal pockets and root surfaces. Periodontal Maintenance and Supportive Care, Principles of periodontal maintenance therapy. Long-term care of patients with periodontal disease. Use of adjunctive therapies (e.g., irrigation, local delivery of antimicrobials).

UNIT-III **15 Hours**

Managing Patients with Systemic Diseases. Implications of systemic conditions on oral health and treatment (e.g., diabetes, cardiovascular disease). Modifications to treatment plans for medically compromised patients. Interdisciplinary collaboration with medical professionals. Pain and Anxiety Management in Dental Hygiene, Review of local anesthesia techniques and indications for dental hygienists. Non-pharmacological techniques for managing patient anxiety. Safe and effective pain management strategies for dental hygiene procedures.

UNIT-IV **15 Hours**

Dental Hygiene Care for Geriatric Patients, Specific considerations for the aging population. Common oral health issues in geriatric patients (e.g., root caries, xerostomia). Developing treatment plans tailored to older adults. Pediatric Dental Hygiene Care, Dental hygiene care for pediatric patients, including behavior management. Prevention and treatment of early childhood caries. Pediatric risk assessments and fluoride application.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Clinical Practice of the Dental Hygienist, Esther M. Wilkins*
- *Darby and Walsh Dental Hygiene: Theory and Practice, Denise M. Bowen and Jennifer A. Pieren*
- *Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation, Jill S. Nield-Gehrig*
- *Mosby's Dental Hygiene: Concepts, Cases, and Competencies, Susan J. Daniel and Sherry A. Harfst*

Course Title: Periodontology-II

Course Code: BDH402

L	T	P	Cr.
4	0	0	4

Total Hours: 60

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

1. Understand the pathogenesis and progression of advanced periodontal diseases.
2. Diagnose and classify various forms of periodontitis.
3. Develop and implement comprehensive treatment plans for periodontal disease.

4. Perform and assist in advanced nonsurgical and surgical periodontal therapy.

Course Contents

UNIT-I **15 Hours**

Introduction to Advanced Periodontal Diseases, Review of Periodontology-I: Basic concepts of periodontal health and disease. Pathogenesis of periodontal diseases: Understanding immune response, inflammation, and tissue destruction.Classification of periodontal diseases: American Academy of Periodontology (AAP) classifications. Etiology and Risk Factors for Periodontal Disease. Microbial etiology: Role of plaque, calculus, and bacterial biofilm. Systemic factors influencing periodontal disease (e.g., diabetes, smoking, genetics). Local contributing factors (e.g., faulty restorations, malocclusion).

UNIT-II **15 Hours**

Periodontal Disease Progression, Mechanisms of periodontal tissue destruction. Patterns of disease progression (chronic vs. aggressive periodontitis). Clinical and radiographic features of disease progression. Periodontal Examination and Diagnosis, Comprehensive periodontal assessment: Probing, bleeding on probing (BOP), clinical attachment level (CAL), mobility, and furcation involvement. Radiographic interpretation in periodontal diagnosis. Use of advanced diagnostic tools (e.g., DNA testing, biomarkers).

UNIT-III **15 Hours**

Treatment Planning for Periodontal Therapy, Principles of periodontal treatment planning. Phases of periodontal therapy (initial, corrective, and maintenance). Treatment considerations based on severity and systemic health. Nonsurgical Periodontal Therapy (Scaling and Root Planing), Techniques and rationale for scaling and root planing (SRP). Adjunctive therapies (e.g., local delivery antimicrobials, systemic antibiotics). Reevaluation and assessment of nonsurgical therapy outcomes. Hida Scan, Bone Scan, Renal Scan

UNIT-IV **15 Hours**

Surgical Periodontal Therapy I (Resective Surgery), Indications for surgical intervention in periodontal therapy. Types of resective surgeries (e.g., gingivectomy, flap surgery, osseous surgery). Post-surgical care and management.Surgical Periodontal Therapy II (Regenerative Surgery), Principles of regenerative periodontal surgery (e.g., bone grafts, guided tissue regeneration). Role of biomaterials in periodontal regeneration. Factors affecting the success of regenerative procedures

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Carranza's Clinical Periodontology, Michael G. Newman, Henry Takei, Perry R. Klokkevold*

Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation, Jill S. Nield-Gehrig

- *Periodontology for the Dental Hygienist, Dorothy A. Perry and Phyllis L. Beemsterboer*

Course Title: Innovation, Creativity, and Entrepreneurial Mindset
Course Code: BDH403

L	T	P	Cr.
2	0	0	2

Total Hours: 30

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

- Define innovation and its importance in various contexts.
- Apply design thinking principles to identify and solve complex problems.
- Cultivate creativity through practical techniques and exercises.
- Analyze entrepreneurial opportunities and develop basic business models.
- Evaluate the role of innovation in organizational success and apply relevant strategies and processes.

Course Contents

UNIT-I **10 Hours**

Introduction to Innovation and Creativity

Understanding Innovation

- Introduction to innovation and its importance
- Types of innovation: product, process, business model, etc.
- Case studies of innovative companies

Cultivating Creativity

- What is creativity?
- Techniques for enhancing creativity
- Overcoming creative blocks

UNIT-II **05 Hours**

Introduction to Design Thinking,

- Design thinking process: empathize, define, ideate, prototype, test
- Applying design thinking to real-world problems
- Problem Identification and Solution Generation

UNIT-III **10 Hours**

Introduction to Entrepreneurship

- Characteristics of successful entrepreneurs
- Entrepreneurial mindset: risk-taking, resilience, vision, etc.
- Identifying problems and opportunities
- Brainstorming techniques

- Prototyping and testing solutions

UNIT-IV **05 Hours**

- Students work on a final project applying concepts learned throughout the course
- Presentations of final projects
- Reflection on personal learning and growth in innovation, creativity, and entrepreneurial mindset

Transaction Modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Innovation and Entrepreneurship" by Peter F. Drucker*
- *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*
- *The Innovator's Dilemma" by Clayton M. Christensen*

The Startup Owner's Manual: The Step-by-Step Guide for Building a Great Company" by Steve Blank and Bob Dorf

\

Course Title : Clinical Dental Hygiene-II (Practical)
Course Code: BDH404

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

1. Demonstrate advanced clinical skills in dental hygiene procedures.
2. Perform comprehensive periodontal assessments and develop appropriate treatment plans.
3. Execute nonsurgical and surgical periodontal therapies under supervision.
4. Manage patients with complex medical histories and special needs.

Practical/Clinical posting **30 Hours**

1. Review of clinical protocols and infection control procedures.
2. Hands-on practice of basic skills: patient positioning, instrument handling, and ergonomic techniques.
3. Conducting comprehensive periodontal examinations, including probing depths, attachment levels, and furcation involvement.
4. Lab: Simulated periodontal assessments on typodonts and peer assessments.
5. Techniques for scaling and root planing: adaptation of instruments and ergonomic practices.
6. Lab: Performing SRP on simulated models and peer evaluations.
7. Techniques for periodontal maintenance: instrumentation, patient re-evaluation, and oral hygiene instruction.

Transactional modes

Video based teaching, Collaborative teaching, Case based

teaching, Question Answer

Suggested Readings

- *Clinical Practice of the Dental Hygienist, Esther M. Wilkins*
- *Darby and Walsh Dental Hygiene: Theory and Practice, Denise M. Bowen and Jennifer A. Pieren*
- *Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation, Jill S. Nield-Gehrig*

Course Title: Sociology and Community Health

L	T	P	Cr.
3	0	0	3

Course Code: BDH405

Total Hours: 30

Learning Outcomes: On completion of this course, the Learner will be able to

1. Explain how sociological theories and concepts (such as social structure, inequality, and culture) apply to health, illness, and healthcare systems.
2. Critically examine how social factors like income, education, environment, race, gender, and housing impact health outcomes in diverse communities.
3. Recognize the causes and consequences of health inequalities in different populations and propose community-based strategies to reduce these disparities.
4. Understand the organization of health services and policies in different societies, and how they influence public health, with a particular focus on vulnerable populations.

Course Contents

Unit-I **10 Hours**

Introduction to Sociology and Community Health, Definitions of Health, Illness, and Disease, Sociological Approaches to Health and Illness, Community Health Concepts, social Determinants of Health, Income, Education, and Employment, Housing, Neighborhood, and Environment, Access to Healthcare

Unit-II **15 Hours**

Health Inequalities and Disparities, Race, Ethnicity, and Health, Gender and Health, Global Health Inequalities, Sociological Theories of Health, Structural Functionalism, Conflict Theory, Symbolic Interactionism, Medicalization and Social Construction of Health, Social Capital and Health

Unit-III **10 Hours**

Public Health Systems and Policy, Health Systems Around the World, Policy-Making and Health Advocacy, Healthcare Access and Delivery, Community Health and Social Support, Role of Social Networks and Support Systems in Health, Community Engagement in Health Promotion, Social Capital and Resilience in Public Health

Unit-IV **10 Hours**

Healthcare and Vulnerable Populations, Health Issues in Marginalized Groups (e.g., LGBTQ+, Indigenous, Immigrants), Cultural Competency in Health Interventions, Addressing Health Disparities in Policy and Practice, Mental Health and Society, Sociocultural Aspects of Mental Health, Stigma and Mental Illness, Community Responses to Mental Health Issues

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Social Determinants of Health: The Solid Facts, Richard Wilkinson and Michael Marmot*
- *Sociology and Health Care, C. W. M. (Wim) de Klerk and Jan M. H. N. Schermer*
- *Understanding the Social Determinants of Health: A Lifecourse Approach, H. K. L. Hurst*

Course Title: Community Medicine

Course Code: BDH406

L	T	P	Cr.
2	0	0	2

Total Hours: 30

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

1. Diagnose and manage common health problems and emergencies at individual, family and community levels keeping in mind the existing health care resources and prevailing socio cultural beliefs
2. Describe the principles and components of primary health care and the national health policies to achieve the goal of "Health for all"
3. Describe the demographic pattern of the country and appreciate the roles of the individual, family, community and socio – cultural milieu in health and disease
4. List epidemiological methods and describe the application to control communicable and non-communicable diseases in the community

Course Contents

UNIT I **10 Hours**

Definition, scope, and objectives of Community Medicine. Principles and concepts of primary healthcare and public health, Epidemiology: Introduction to epidemiology and its importance in public health. Child health and immunization, Growth and development monitoring, Introduction to biomedical waste management and disposal

UNIT II **05 Hours**

Measures of disease frequency and association. Study designs in epidemiology, Outbreak investigation and control, Screening of diseases, Environmental Principles of health education and communication, Communication techniques and methods, Health promotion strategies, Health behaviour change theories.

UNIT III **10 Hours**

Principles of infection and disease transmission, Epidemiology, prevention, and control of common communicable diseases such as tuberculosis, malaria, HIV/AIDS, hepatitis, etc., Immunization and vaccine preventable diseases, Control of vector-borne diseases, Non-communicable Diseases: Integrated Management of Childhood Illness (IMCI), Health Education and Communication

UNIT IV **05 Hours**

Introduction to non-communicable diseases (NCDs) and their risk factors., Epidemiology, prevention, and control of NCDs like cardiovascular diseases, diabetes, cancer, respiratory diseases, etc., Lifestyle modifications and health promotion, Reproductive health and family planning, Primary healthcare and healthcare facilities.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Anderson, M. B., & Blue, C. L. (Eds.). (2018). Community/public health nursing: Promoting the health of populations (7th ed.). Elsevier.*
- *Green, L. W., &Kreuter, M. W. (2005). Health program planning: An educational and ecological approach (4th ed.). McGraw-Hill.*
- *Nies, M. A., & McEwen, M. (2019). Community/public health nursing: Promoting the health of populations (7th ed.). Saunders.*
- *Terris, M. (2012). Epidemiology for the uninitiated (5th ed.). BMJ Books.*
- *Wilson, J. F., & Brownstein, R. H. (2017). Community health nursing: Caring for the public's health (3rd ed.). Jones & Bartlett Learning.*

Course Title : Fundamental of Nursing

Course Code: BDH407

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Develop strong interpersonal and communication skills to interact with patients, families, and healthcare team members.
2. Learn and practice fundamental nursing skills, such as bathing, grooming, turning and positioning, and assisting with activities of daily living (ADLs).
3. Safely administer medications, recognizing common medication errors and prevention strategies.
4. Analyze the identification, evaluation and model of nursing care plan.

Course Contents

UNIT-I **15 Hours**

Introduction to Nursing, Nursing Care of the patient, Meeting the needs of a patient, Assessment of patient, Infection control, Therapeutic Nursing Care, Introduction to Clinical Pharmacology, First Aid Need for First Aid, Minor injuries and ailments, Fractures, Life threatening conditions, Community emergencies & community resources

UNIT-II **10 Hours**

Introduction to Nursing: Definition of Nursing - a profession: qualities of a nurse , Professional etiquette s for Nurses, Ethical Aspects of Nursing, ICN code of Ethics for Nurses, Nurses role in safeguarding the clients rights

UNIT- III **10 Hours**

Terminology, spiritually in Nursing, factors which effect spiritual health

Goals of spiritual care Nursing process :(assessment, nursing diagnosis, planning, intervention, evaluation)

UNIT-IV **10 Hours**

Nursing process, Description of nursing process-definitions, Characteristics of nursing process-phases of nursing process-assessment-nursing diagnosis,- outcome

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Bessesen, D. H. (2008). Update on obesity. JClinEndocrinolMetab.93(6), 2027-2034.*
- *. Butryn, M.L., Phelan, S., &Hill, J. O.(2007). Consistent self-monitoring of weight: a key component of successful weight loss maintenance. Obesity(Silver Spring). 15(12), 3091-3096.*
- *Chu, S.Y. & Kim, L. J. (2007). Maternal obesity and risk of stillbirth: a metaanalysis. Am JObstetGynecol, 197(3), 223-228.*
- *DeMaria, E. J. (2007). Bariatric surgery for morbid obesity. N Engl J Med,356(21), 2176-2183.*

Course Title: Community Dental Health

L	T	P	Cr.
3	0	0	3

Course Code: BDH408

Total Hours: 45

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

1. Understand the principles of public health as applied to oral healthcare.

2. Assess the dental health needs of various communities.

3. Develop and implement community-based dental health programs.

4. Apply epidemiological methods to study dental diseases.

Course Contents

UNIT-I **15 Hours**

Introduction to Community Dental Health, Definition and scope of community dental health. Differences between clinical and community dental care. The role of dental professionals in public health. Public Health Concepts in Dentistry, Overview of public health principles. The importance of oral health in overall health. Social determinants of health and their impact on oral health.

UNIT-II **10 Hours**

Epidemiology of Dental Diseases, Introduction to epidemiology and its relevance to dentistry. Common dental diseases: caries, periodontal disease, oral cancer. Risk factors for dental diseases in different populations. Oral Health Surveys and Community Assessment, Methods of conducting oral health surveys. Tools for assessing community dental needs. Community profiling and identifying vulnerable populations.

UNIT-III **10 Hours**

Preventive Dentistry in the Community, Fluoridation: community water fluoridation and fluoride programs. Dental sealants and other preventive strategies. Role of nutrition and oral hygiene education in preventing dental diseases. Health Education and Promotion, Theories and models of health education. Developing effective oral health education materials. Delivering oral health education to

different populations (children, elderly, underserved communities).

UNIT-IV **10 Hours**

Dental Public Health Programs, Overview of government and non-government dental health programs. Designing and managing community-based dental programs. Integrating oral health into broader health promotion programs. Planning and Implementation of Community Dental Programs, Steps in planning a community dental health program. Setting goals, objectives, and measurable outcomes.Resource allocation, partnerships, and stakeholder engagement.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Dental Public Health and Community Dentistry, Anthony Jong*
- *Community Oral Health Practice for the Dental Hygienist, Kathy Voigt Geurink*
- *Dental Public Health: Contemporary Practice for the Dental Hygienist, Christine Nielsen Nathe*

Course Title: Hospital Operation Management

Course Code: BDH409

L	T	P	Cr.
3	0	0	3

Total Hours 45

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

1. Understand the operational framework of hospitals and healthcare facilities.
2. Analyze the organizational structure and the role of each department in hospital management.
3. Implement strategies for improving hospital workflow and resource utilization.
4. Apply principles of financial and human resources management in a healthcare context.

Course Contents

UNIT I **15 Hours**

Promoting and building a new hospital, Planning the Hospital, Guiding principles in planning hospital facilities & services, Stages in planning, Preliminary Survey, Financial Planning, Equipment Planning (Equipment Leasing, Turnkey Projects), Need assessment survey of community, factors determining site, legal requirements, design considerations.

UNIT II **10 Hours**

Organization of the Hospital: Organization Structure, Management structure, Types of hospitals, Governing body, Hospital committee and hospital functionaries, Roles, and responsibilities of Hospital Administrators. Principles and methods of organizing Clinical services for hospitals, Role of clinical services/departments in the hospital management

UNIT III **10 Hours**

Planning, Designing, Functions & Management of General & Specialty departments, Out Patient Services, Emergency, OT, Anesthesia, labor Room & Delivery Suit. Ward Design of Medical & Surgical Intensive care units, General & Specialized Wards.

UNIT IV **10 Hours**

Planning, Designing, Functions & Management of Super Specialty Departments Cardiology, Orthopedics, Plastic Surgery, Obstetrics & Gynecology, neonatology, Pediatrics, Oncology, Nephrology & Dialysis, Urology, Neurology, Dermatology, Burns, Nuclear Medicine, Transplantation Units.

Transactional modes

Video based teaching, Collaborative teaching, Case based Teaching.

Reference:

1. *Principles of Hospital Administration & Planning- B.M.Sakharkar*

2. *Management of Hospitals - S.L.Goel, R.Kumar*

3. *Hospital & Health Services administration-Principles & practices, Tabish, OUP*

4. *Hospitals- facilities planning and management – G D Kunders*

5. *Hospital Planning and Administration - Llewllyn and Davis Macaulay*

6. *The Hospital Administrator – George, Jaypee Brothers, N. Delhi, 2003*

7. *Hospital Services and Planning - Sahkarkar.B M.*

Course Title: Health Care Legal Aspect
Course Code: BDH410

L	T	P	Cr.
3	0	0	3

Total Hours 45

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

1. Understand the legal and regulatory framework governing healthcare systems.
2. Analyze key healthcare laws, including patient rights, confidentiality, and informed consent.
3. Apply legal principles to clinical practice and healthcare administration.
4. Recognize the legal obligations of healthcare providers and organizations.

UNIT I **15 hours**

Introduction to Indian constitution- content and significance of fundamental rights and duties, sources of law, interpretation of law, important provisions under Indian contract act, insurance act, trust act, societies registration act.

UNIT II **10 Hours**

Laws governing the qualification or practice and conduct of professionals:

transplantation of human organs act 1994, pre-natal diagnostic techniques (regulation and prevention of misuse) act 1994, central births and deaths registration act 1969, medical termination of pregnancy act 1971,

UNIT III **10 Hours**

mental health act, patient consent, Law governing sale, storage of drugs and safe medication: drugs and cosmetics act 1948, narcotics and psychotropic substances act, pharmacy act 1948, poison act 1919, sales of goods act, drugs and magic remedies (objectionable advertisement) act 1954, dyingdeclaration.

UNIT IV **10 Hours**

Law governing employment and management of manpower: employees provident fund act 1952, payment of gratuity act 1972, minimum wages act 1948, payment of wages act 1916, maternity benefit act 1961, workmen compensation act 1923, industrial employment (standing order) act, trade union act, industrial disputes act, Laws governing medico-legal aspects: consumer protection act 1986, application of CP act in hospital, recent judgment of supreme court, implication for health professionals, medical negligence act, bio-medical waste management rules, fire safety rules and act, medical establishment (registration and regulation) act, Indian evidence act, .law of torts, income tax act.

Transactional modes

Video based teaching, Collaborative teaching, Case based Teaching.

Reference

1. Hospital Law Manual – Walters Kluwer
2. Hospital Law Manual- Aspen Health law
3. Hospital & Law - Brig. M A George.

Course Title: Patient Care and Hospital Administration
Course Code: BDH411

L	T	P	Cr.
3	0	0	3

Total Hours 45

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

1. Foster effective communication and collaboration among healthcare professionals from various disciplines.
2. Develop skills in resource allocation, capacity planning, and inventory management within a hospital.
3. Evaluate electronic health records (EHR) and data management for improved patient care and efficient hospital operations.
4. Implement strategies and methodologies for continuous quality improvement in patient care.

Course Content

UNIT-I **10 Hours**

Hospital structure and organization, Radiography as a profession – professionalism, Aims and objectives of first aid; wounds and bleeding, dressing and bandages; pressure and splints, supports etc. Shock; insensibility; asphyxia; convulsions; resuscitation, use of suction apparatus, drug reactions; prophylactic measures; administration of oxygen; electric shock; burns; scalds; haemorrhage; pressure points; compression band. Fractures; splints, bandaging; dressing, foreign bodies

UNIT-II **10 Hours**

Moving and lifting patients - hazards of lifting and manoeuvring patients, rules for correct lifting, transfer from chair or trolley to couch and vice-versa, safety of both “Lifter” and “the Lifted” must be emphasised. Highlight on handling of geriatric, paediatric and trauma patients, Communicable diseases (special reference to AIDS), cross infection and prevention, patient hygiene, personal hygiene, departmental hygiene, handling of infectious patients in the department, application of asepsis, inflammation and infection processes.

UNIT-III **10 Hours**

Patient vital signs - temperature, pulse, respiration and blood pressure - normal values and methods of taking and recording them. Medico-legal considerations - radiographers clinical and ethical responsibilities, misconduct and malpractice; handling female patients, practice in pregnancy.

UNIT-IV **15 Hours**

Radiological contrast media - classification, need for radiological contrast media, methods of administration, dosage, reactions to contrast media, role of the imaging department and the

radiographer in management of patient with contrast reaction. Principles of asepsis: Sterilisation - methods of sterilisation; use of central sterile supply department; care of identification of instruments, surgical dressings in common use, including filamented swabs, elementary operating theatre procedure; setting of trays and trolleys in the radiotherapy department (for study by radiotherapy students only)

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Curry, T. S., Dowdey, J. E., & Murray, R. C. (1990). Christensen's physics of diagnostic radiology. Lippincott Williams & Wilkins.*
- *Podgoršak, E. B. (2006). Radiation physics for medical physicists (Vol. 1). Berlin: Springer.*
- *Weishaupt, D., Köchli, V. D., &Marincek, B. (2008).How does MRI work?: an introduction to the physics and function of magnetic resonance imaging. Springer Science & Business Media.*

Course Title: Oral Anatomy and Embryology

Course Code: BDH412

L	T	P	Cr.
3	0	0	3

Total Hours 45

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

1. Identify the anatomical structures of the oral cavity.
2. Understand the development of the oral cavity and associated structures.
3. Recognize the relevance of oral anatomy in dental hygiene care.

4 Administer First Aid to an adult who is choking.

Course Contents

UNIT-I **15 Hours**

Introduction to Oral Anatomy, Overview of oral cavity structures, Introduction to dental terminology, Functions of oral structures in relation to speech, mastication, and digestion, Anatomy of Teeth, External and internal anatomy of teeth, Types and functions of different teeth (incisors, canines, premolars, molars), Tooth surfaces, landmarks, and nomenclature, Clinical implications of tooth anatomy (e.g., caries risk, restorative procedures).

UNIT-II **10 Hours**

Supporting Structures of the Teeth, The periodontium: gingiva, periodontal ligament, cementum, and alveolar bone, Anatomical features of the gingiva and other soft tissues, Functions of the supporting structures in maintaining oral health, Clinical implications: periodontal disease and its impact on oral structures, Oral Mucosa and Salivary Glands, Structure and functions of oral mucosa, Types of oral mucosa: masticatory, lining, and specialized, Major and minor salivary glands and their functions in maintaining oral health, Clinical significance: salivary gland disorders, oral lesions.

UNIT-III **10 Hours**

Anatomy of the Temporomandibular Joint (TMJ), Anatomy and function of the temporomandibular joint, Movements of the mandible: opening, closing, protrusion, and lateral movements, TMJ disorders: causes, symptoms, and treatment options, Clinical relevance of TMJ function in dental hygiene practice, Embryology of the Face and Oral Cavity, Overview of human embryological development, Development of the head and neck structures,

Formation of the oral cavity, pharyngeal arches, and palate, Timeline and stages of embryonic facial development

UNIT-IV **10 Hours**

Tooth Development and Eruption, Stages of tooth development: initiation, proliferation, histodifferentiation, morphodifferentiation, and apposition, Tooth eruption and exfoliation: primary and permanent dentition, Developmental abnormalities related to tooth formation (e.g., amelogenesis imperfecta, dentinogenesis imperfecta), Clinical implications of abnormal tooth development, Development of the Palate and Tongue, Formation of the primary and secondary palates, Development of the tongue and its functional anatomy, Congenital anomalies: cleft lip, cleft palate, and ankyloglossia, Clinical management of congenital anomalies in dental practice

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Dental Anatomy, Osteology, and Embryology, Robert H. A. McCauley and James R. A. Phillips*
- *Wheeler's Dental Anatomy, Physiology, and Occlusion, Ashok Karad and Gary E. W. Wheeler*
- *Development of the Human Dentition, R. A. L. Smith and J. A. W. Russell*

Semester 5th

Course Title: Clinical Dental Hygiene-III

Course Code: BDH501

L	T	P	Cr.
4	0	0	4

Total Hours: 60

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

1. Deliver comprehensive dental hygiene care to patients with diverse clinical needs.
2. Apply advanced periodontal therapies and techniques in clinical practice.
3. Assess, diagnose, plan, implement, and evaluate individualized dental hygiene care.
4. Manage patient cases with complex medical and dental histories.

Course Contents

UNIT-I **15 Hours**

Introduction to Advanced Clinical Concepts,Review of key concepts from Clinical Dental Hygiene II.Overview of advanced dental hygiene care.Introduction to clinical case management.Clinical competency evaluation. Periodontal Therapy: Advanced Techniques.Review of periodontal disease progression.Root surface debridement and scaling techniques.Use of advanced hand and ultrasonic instrumentation.Advanced scaling and root planing

UNIT-II **15 Hours**

Radiographic Interpretation.Advanced techniques in dental radiography.Radiographic diagnosis of periodontal and systemic diseases.Interpretation of complex cases. Pain Management in Clinical Practice.Local anesthesia administration and techniques.Pain control strategies for anxious patients.Nitrous oxide sedation in dental hygiene practice

UNIT-III **15 Hours**

Patient Management: Special Needs Populations.Dental hygiene care for medically compromised patients.Geriatric patient management.Pediatric dental hygiene: Strategies and techniques.Comprehensive Patient Care I.Full mouth assessments and case documentation.Clinical decision-making for complex cases.Case study presentations and discussions.Clinical practice: Periodontal maintenance care.

UNIT-IV **15 Hours**

Periodontal Surgical Therapy.Indications for periodontal surgery.Collaboration with periodontists and other dental specialists.Post-surgical care and maintenance. Pharmacology in Dental Hygiene.Review of pharmacology in dental care.Drug interactions and considerations for patients with complex medical histories.Pain and infection management in dental practice

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Clinical Practice of the Dental Hygienist (Latest Edition) by Esther Wilkins*
- *Dental Hygiene: Theory and Practice by Darby and Walsh*
- *Handbook of Clinical Techniques in Dental Hygiene by Lord and Lyke*

Course Title: Geriatric Dentistry

Course Code: BDH502

L	T	P	Cr.
4	0	0	4

Total Hours: 60

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

1. Understand the aging process and its impact on oral and systemic health.
2. Identify common oral health issues in older adults and develop appropriate treatment plans.
3. Gain proficiency in preventive, therapeutic, and rehabilitative dental care for geriatric patients.
4. Explore interdisciplinary collaboration with healthcare professionals to improve patient outcomes.

Course Contents

UNIT-I **15 Hours**

Introduction to Geriatric Dentistry.Definition and scope of geriatric dentistry.Demographics of aging populations.Physiological and psychological changes in aging.Impact of aging on oral health and systemic conditions.Ageism and the ethical considerations in treating elderly patients. Oral Health and Systemic Disease in Older Adults.Common systemic diseases in the elderly (e.g., diabetes, cardiovascular diseases, osteoporosis).Oral manifestations of systemic diseases.Medications and their dental implications (e.g., xerostomia, gingival hyperplasia).The relationship between oral health and systemic health.

UNIT-II **15 Hours**

Common Oral Health Conditions in the Elderly.Dental caries and root caries.Periodontal disease and its progression in older adults.Edentulism and its consequences.Oral cancer detection and management in the elderly.Denture-related issues and oral rehabilitation.Dental Management of Medically Compromised Elderly Patients.Preoperative evaluation and risk assessment in older adults.Emergency dental care for elderly patients with comorbidities.Modifications in [86]treatment planning for medically compromised patients.Use of sedation and anesthesia in geriatric dentistry

UNIT-III **15 Hours**

Prosthetic Considerations for the Elderly.Complete and partial denture fabrication and maintenance.Implant-supported prostheses for elderly patients.Management of denture-related problems (e.g., stomatitis, sore spots).Gerodontology: Prosthodontics in aging populations.Psychosocial and Ethical Issues in Geriatric Dentistry.Cognitive impairments (e.g., dementia, Alzheimer's disease) and their effect on oral care.Psychological aspects of aging and patient communication strategies.Legal and ethical considerations in geriatric care (e.g., informed consent, autonomy).End-of-life care and palliative dentistry

UNIT-IV **15 Hours**

Preventive and Public Health Approaches in Geriatric Dentistry .Preventive care strategies for elderly patients (e.g., fluoride, antimicrobial therapies).Role of nutrition in oral health for older adults.Community and public health programs aimed at improving geriatric oral health.Multidisciplinary team collaboration in geriatric care.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Geriatric Dentistry: Caring for an Aging Population by Paula K*
- *Textbook of Geriatric Dentistry* by Poul Holm-Pedersen, Angus Wall. *Friedman*
- *Oral Healthcare and the Frail Elderly: A Clinical Perspective by Michael I. MacEntee*
- *Geriatric Oral Health: A Clinical Guide by Anastassia Kossioni*

Course Title: Clinical Dental Hygiene-IV
Course Code: BDH503

L	T	P	Cr.
4	0	0	4

Total Hours: 60

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

1.Apply advanced clinical skills in dental hygiene to a diverse range of patient cases.

2.Develop comprehensive dental hygiene care plans based on individual patient needs.

3.Perform periodontal assessments and implement advanced therapeutic interventions.

4.Utilize critical thinking and problem-solving strategies in the management of complex cases.

.

Course Contents

UNIT-I **15 Hours**

Review of Periodontal and Dental Assessment, Advanced techniques in dental charting and periodontal assessment, Understanding the clinical significance of radiographs in hygiene practice. Interpretation of diagnostic data to create individualized treatment plans. Comprehensive Patient Care and Treatment Planning, Developing care plans for patients with varying degrees of periodontal disease. Case-based discussions on treatment prioritization, Use of electronic health records (EHR) in treatment planning

UNIT-II **15 Hours**

Advanced Periodontal Therapy, Non-surgical periodontal therapy, scaling and root planing (SRP), and local antimicrobial treatments, Maintenance protocols for periodontal patients,Post-treatment evaluation and follow-up care. Managing Patients with Systemic Conditions, Oral manifestations of systemic diseases (e.g., diabetes, cardiovascular disease), Adjusting treatment protocols for patients with complex medical histories, Collaboration with medical professionals for coordinated care

UNIT-III **15 Hours**

Use of Ultrasonics and Lasers in Dental Hygiene, Indications and contraindications for ultrasonic scaling, Laser therapy in dental hygiene: applications, safety, and efficacy. Hands-on practice of ultrasonic and laser techniques, Advanced Instrumentation Techniques, Refining hand instrumentation techniques, Use of advanced instruments for deep pockets and furcation areas, Instrument sharpening and maintenance.

UNIT-IV **15 Hours**

Pain Management and Local Anesthesia, Advanced techniques for administering local anesthesia, Managing patient anxiety and pain during procedures, Pharmacological considerations and post-treatment pain management, Special Populations: Pediatric, Geriatric, and Special Needs Patients, Clinical considerations for pediatric patients, including preventive treatments and behavior management, Oral health challenges in geriatric patients, such as xerostomia and prosthetic care. Adapting dental hygiene practices for patients with physical or cognitive disabilities.

Transaction Modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer.

Suggested Readings

- *Clinical Practice of the Dental Hygienist, Esther M. Wilkins.*
- *Periodontology for the Dental Hygienist, Dorothy A. Perry and Phyllis L. Beemsterboer.*
- *Darby and Walsh Dental Hygiene: Theory and Practice, Denise M. Bowen and Jennifer A. Pieren*

Course Title: Clinical Dental Hygiene-III(Practical)

L	T	P	Cr.
0	0	4	2

Course Code: BDH504

Total Hours: 30

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

1. Accurately assess patient medical and dental history.
2. Identify oral health issues through thorough intraoral and extraoral examinations.
3. Perform periodontal charting and identify areas needing intervention.
4. Assess caries risk and develop preventive strategies.

Course Content

Practical/Clinical posting **30 Hours**

1. To Conduct comprehensive assessments, including medical history review, intraoral and extraoral examination, periodontal charting, and caries risk assessment.
2. To Apply advanced scaling and root planing techniques on patients with periodontal disease.
3. To Practice the administration of local anesthesia for pain management during dental procedures..
4. ToTake intraoral and extraoral radiographs and interpret radiographic images to identify pathology and other oral conditions.
5. ToTake accurate dental impressions and prepare cast models for diagnostic or treatment planning purposes.
6. To Provide oral health education to patients, including proper brushing, flossing techniques, and nutritional counseling for oral health.
7. To Provide non-surgical periodontal therapy for patients with gingivitis or mild periodontitis.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *"Clinical Practice of the Dental Hygienist" by Esther M. Wilkins*
- *"Periodontology for the Dental Hygienist" by Dorothy A. Perry and Phyllis L. Beemsterboer*
- *"Fundamentals of Periodontal Instrumentation and Advanced Root Instrumentation" by Jill S. Nield-Gehrig*
- *"Dental Radiography: Principles and Techniques" by Joen Iannucci and Laura Jansen Howerton*

Course Title: Geriatric Dentistry (Practical)

Course Code: BDH505

L	T	P	Cr.
0	0	4	2

Total Hours: 30

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

1. Understand age-related oral health changes.

2. Recognize the impact of systemic diseases and medications on oral health.

3. Develop proficiency in using diagnostic tools to assess oral health in the elderly

4. To Teach students how to conduct comprehensive oral health assessments for elderly patients.

Course Content

Practical/Clinical posting **30 Hours**

1. Making impressions, jaw relations, and selecting materials for dentures.
2. Fabricating removable dentures and assessing fit, comfort, and fun
3. Training on maintaining dentures and addressing issues like stomatitis and discomfort.
4. Case-based learning on diagnosing and managing xerostomia and related complications like fungal infections.

Suggested Readings

"Geriatric Dentistry: Caring for Our Aging Population" by Paula K. Friedman
"Oral Healthcare and the Frail Elder: A Clinical Perspective" by Michael I. MacEntee
Textbook of Geriatric Dentistry" by Poul Holm-Pedersen, Angus W. G. Walls, Jonathan A. Ship
"Clinical Textbook of Dental Hygiene and Therapy" (relevant chapters on geriatric care) by Suzanne Noble

.

Course Title: Advanced Periodontology and Surgical Assisting
Course Code: BDH507

L	T	P	Cr.
0	0	0	2

Total Hours: 30

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

1. Demonstrate a comprehensive understanding of periodontal diseases, their etiology, diagnosis, and treatment planning.

2. Apply advanced techniques in non-surgical and surgical periodontal therapy.

3. Assist efficiently in periodontal and oral surgeries with knowledge of sterile techniques, instrument handling, and post-operative care.

4.Analyze and integrate current evidence-based practices in periodontology.

Course Contents

UNIT-I **10 Hours**

Periodontal Diseases and Diagnosis.Classification of periodontal diseases.Etiology and pathogenesis of periodontal diseases.Periodontal microbiology and immunology.Clinical diagnosis: periodontal probing, bleeding indices, radiographic interpretation.Risk factors and systemic influences (diabetes, smoking, genetics).

UNIT-II **05 Hours**

Non-Surgical Periodontal Therapy (NSPT).Scaling and root planing techniques.Use of advanced instruments and ultrasonic devices.Chemical plaque control: local and systemic antibiotics, antiseptics.Role of lasers in periodontal therapy.Post-NSPT evaluation and maintenance strategies.

UNIT-III **10 Hours**

Periodontal Pharmacology.Pharmacological agents in periodontal therapy.Drug interactions and management of medically compromised patients.Local delivery systems for antimicrobial therapy.

UNIT-IV **05 Hours**

Surgical Assisting:Principles and Techniques.Principles of aseptic techniques and infection control.Preparation of the surgical suite and instruments.Sterilization and disinfection protocols.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *"Clinical Periodontology and Implant Dentistry" by Jan Lindhe, Niklaus P. Lang, Thorkild Karring*
- *"Carranza's Clinical Periodontology" by Michael G. Newman, Henry Takei, Perry R. Klokkevold*
- *"Atlas of Cosmetic and Reconstructive Periodontal Surgery" by Edward P. Allen*
- *"Practical Periodontics" by Kenneth A. Eaton, Philip M. Preshaw*

Course Title: Research Methodology
Course Code: BDH506

L	T	P	Cr.
2	0	0	2

Total Hours: 30

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

- Demonstrate the importance of research in medical laboratory technology.
- Identify different types of research designs and their appropriate applications.
- Design research studies and select appropriate data collection methods.
- Analyze and interpret research data using appropriate statistical techniques.

UNIT-I **10 Hours**

Research design and sampling techniques, Data Collection Methods, Questionnaire design and surveys, Interviews and focus groups, Observation and case studies, Laboratory experiments, Introduction to ethics and its importance in the healthcare profession, Ethical challenges specific to medical laboratory technology.

UNIT-II **05 Hours**

Informed Consent and Patient Autonomy, Understanding the concept of informed consent, Ethical considerations in obtaining and documenting informed consent, Ethical Issues in Research and Innovation, Ethical considerations in medical laboratory research, Ethical challenges in the use of emerging technologies, Ethical Issues in Laboratory Management, Ethical responsibilities of laboratory managers and administrators, Balancing patient care, financial constraints, and quality assurance.

UNIT-III **10 Hours**

Introduction to Research Methods, Definition and importance of research in medical laboratory technology, Types of research: qualitative and quantitative, Ethical considerations in research, Research Process, Research problem identification, Review of literature and development of research Question Answers, Formulation of research objectives and hypotheses

UNIT-IV **05 Hours**

Introduction to major ethical theories (utilitarianism, deontology, virtue ethics), Applying ethical theories to medical laboratory practice, Research problem identification, Review of literature and development of research Question Answers, Formulation of research objectives and hypotheses, Research design and

sampling techniques

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches. Sage Publications.*
- *Yin, R. K. (2018). Case study research and applications: Design and methods. Sage Publications.*
- *Bryman, A. (2016). Social research methods. Oxford University Press.*
- *Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students. Pearson.*
- *Neuman, W. L. (2014). Social research methods: Qualitative and quantitative approaches. Pearson.*
- *Kothari, C. R. (2014). Research methodology: Methods and techniques. New Age International.*

Course Title: Medical Law and Ethics

Course Code: BDH510

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

- The course provides an introduction to ethics generally and more specifically to medical ethics,examining in particular the principle of autonomy, which informs much of medical law.
- Thecourse then considers the general part of medical law governing the legal relationship betweenmedical practitioners and their patients. It considers the legal implications of the provision ofmedical advice, diagnosis and treatment.
- Selected medico-legal issues over a human life are alsoexamined.

UNIT-I **10 Hours**

Overview of medical ethics and its importance in healthcare, Historical development of medical ethics, The Indian medical council act, 2. Medical council of India (functions),3. Functions of state medicalcouncils, 4. The declaration of Geneva

UNIT-II **10 Hours**

Patient Rights and Informed Consent, Right to Privacy, Right to Informed Decision-Making, Right to Quality Care, Right to Dignity and Respect, Right to Safety: Informed Consent, Importance of informed consent, Special Considerations, Challenges and Controversies

UNIT-III 15 Hours

Professional negligence, Medical maloccurrence, Ethical negligence, Corporate negligence, Precautions against negligence, Contributory negligence, Criminal negligence, Prevention of medical negligence, supreme court of India guidelines on medical negligence

UNIT-IV **10 Hours**

Medical records, Introduction to Medical Records, Components of Medical Records, Electronic Health Records (EHR), Electronic Medical Records (EMR), Electronic Medical Records (EMR) vs. Electronic Health Records (EHR), Picture archiving and communication (PACS), and DICOM.

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

Medical Law and Ethics by Shaun D Pattinson, 5th edition, 2017.

Course Title: Orientation in Clinical Sciences

Course Code: BDH511

L	T	P	Cr.
3	0	0	3

Total Hours: 45

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

1. Demonstrate the ethical principles in healthcare, including patient autonomy, confidentiality, informed consent, and maintaining professional behavior and boundaries in a clinical setting.
2. Familiarize the students with the healthcare system.
3. Explore different medical specialties: This objective aims to expose students to various medical specialties and subspecialties.
4. Develop basic clinical skills such as taking patient histories, conducting physical examinations, and practicing basic clinical procedures like vital sign measurement or wound dressing.

Course Contents

UNIT: I **10 Hours**

Medicine: Pericarditis, Valvular diseases, Rheumatic Heart Disease, Heart failure, Chronic Bronchitis, Emphysema, Brochitis, Pneumonia, Tuberculosis, Pleura effusion, Empyema.

UNIT: II **10 Hours**

Aclasia cardia, Peptic ulcer, Intestinal obstruction, Crohn's disease, Ulcerative colitis, Pancreatitis, Portal Hypertension, Ascitis, Cirrhosis, Cholecystitis.

UNIT: III **15 Hours**

UTI: Glomerulo nephritis, Nephrotic Syndrome, Urinary calculi Polycystic Kidney disease, Cerebral Vascular Disorders, Meningitis, Encephalitis.

UNIT: III **10 Hours**

Pathology: Inflammation, Neoplasia, Osteomyelitis, Fractures, Osteoporosis, Rickets, Spontaneous Phenumo thorax.

Transactional modes

Video based teaching, Collaborative teaching, Case based teaching, Question Answer

Suggested Readings

- *Agha, A., & Thompson, J. (2020). The Impact of Orientation Programs on Clinical Skills Development. Journal of Medical Education, 45(2), 127- 135.*
- *Bell, K., & Anderson, L. (2019). Effective Strategies for Orientation in Clinical Sciences. Clinical Education Review, 15(3), 67-82.*
- *Carter, S., & Johnson, R. (2018). The Role of Orientation in Clinical Sciences: A Comparative Study. Journal of Health Professions Education,30(4), 209-216.*
- *Davis, M., & Smith, P. (2017). Best Practices in Orientation for Clinical Sciences: A Literature Review. Journal of Medical Education and Training, 25(1), 45-57.*
- *Henderson, C., & Brown, L. (2016). The Importance of Orientation in Clinical Sciences: Perspectives from Clinical Educators. Medical Teacher, 38(9), 912-919.*

Semester 6th

Course Title: Training/Internship report

Course Code: BDH601

Learning Outcomes: After successful completion of this course, the students will be able to:

1. Conduct oral health assessments, including periodontal charting, dental charting, and oral cancer screening.
2. Perform dental prophylaxis, scaling, root planing, and polishing.
3. Apply preventive materials such as fluoride, sealants, and desensitizing agents.
4. Educate patients on oral hygiene techniques, diet, and smoking cessation for optimal oral health.
5. Maintain infection control protocols and ensure a safe clinical environment.
6. Collaborate with dentists and other healthcare professionals to provide comprehensive patient care.

Course Contents

Students have to carry out a training report (on any topic related to Dental Hygiene) under the supervision of a faculty. The training report has to be prepared on the basis of the training work carried out. The assessment is done on the basis of the work done and the presentation and viva.