

Syllabus for Licensing Examination of Certificate in Dental Hygiene 2021



Nepal Health Professional Council

Bansbari, Kathmandu

First Revision 2022

Table of Content

S.N	Subjects	Marks
1	Core subject <ul style="list-style-type: none"> ▪ Human Anatomy and Physiology ▪ Oral Anatomy & physiology ▪ Oral pathology and microbiology ▪ Dental pharmacology ▪ Dental material, instruments and assisting 	30%
2	Clinical <ul style="list-style-type: none"> ▪ Basic Periodontology I ▪ Basic Periodontology II ▪ Dental Radiography and photography ▪ Basic Medical Procedure and first aid ▪ Dental public health 	40%
3	Community <ul style="list-style-type: none"> ▪ Health education ▪ Epidemiology and community diagnosis ▪ Office health management ▪ Environmental health ▪ Food and nutrition 	30%
Total		100%

1. Core Subjects

Human Anatomy and Physiology

Introduction of Anatomy & physiology, structure and function of the Skin and integumentary system, Skeletal system, Muscular system, Nervous system, Somatic and special senses, Endocrine system, Blood, Cardiovascular system, Lymphatic system and immunity, Digestive system, Respiratory system, Urinary system, Male reproductive system, Female reproductive system and Human Growth & Development.

Oral Anatomy and Physiology

Anatomy, Histology, Osteology, Anatomy & Physiology of tongue, Embryology & Physiology, Maxilla, mandible, facial muscles, muscle of mastication, Oral cavity, Anatomy of tooth, mixed dentition, Tooth Numbering system, Growth and development of tooth, Saliva and salivary gland, nerve supply of head & neck, blood supply of head & neck, Lymphatic system of head & neck.

Oral Pathology and Microbiology

Dental caries, inflammation, abscess, cyst, tumor, oral lesion & condition, regressive alteration of tooth, classification of bacteria & virus.

Microbiology, branches of microbiology, infection, universal precaution, hand wash, sterilization, self-protection.

Sterilization and Disinfections

Dental Pharmacology

Pharmacology & drugs, NSAID & Steroid (Anti inflammatory drugs), classification of drugs Antibiotics, effects, side effects, mode of action each, Routes of drug administration, Advantages and disadvantages of Various Routes of Administration, Pharmacodynamics and Pharmacokinetics of Drugs. Local Anesthesia, Prescription writing, Composition of Dentifrices, Properties and types of dentifrices. Functions of dentifrices. Different astringents & topical anesthetic agents. Definition of local Anesthesia, Ideal requirements of local Anesthesia, Composition of local Anesthesia, uses of local Anesthesia, Classification of local Anesthesia, Instruments used to deliver local anesthesia, Adverse reaction (Toxicity)

Dental Material, Instruments and Assisting

Common dental materials, Biocompatibility of materials, Gypsum products, Impression Compound, Zinc Oxide Eugenol, Zinc Oxide, Zinc Phosphate, Glass Ionomer Cement, Zinc Polycarboxylate, Amalgam, Bases and liners, Varnish, Alginate, Composite Resin, Calcium Hydroxide, Acrylic Resin, Dental Wax, Dental model, cast and die materials.

Impression trays, Diagnostic Instrument, Restorative Instrument, Endodontic Instruments, Periodontics Instruments, Prosthodontics Instruments, Orthodontic Instruments, Oral Surgery Instruments.

Parts of Dental Chair, Disinfection and maintenance of Dental Chair,

Different Operator and assistant positions, Preparation of patients, Behavioral management of special need patients, Dental Emergencies, Pre- and Post- treatment Instructions, four- and six-handed dentistry.

Isolation of Working Field in Mouth

2. Clinical

Basic Periodontology I

Gingiva, Normal clinical features of gingiva, Normal microscopic features of gingiva, Gingival connective tissue & gingival fibers, Development of gingival sulcus, Blood supply, lymphatic drainage and nerve supply of gingiva, Correlation of normal clinical and microscopic features of gingiva, Dental plaque, Structure and composition of dental plaque, Formation of dental plaque, Structure and physiologic properties of dental plaque, Role of dental plaque in periodontal disease. classification of dental calculus, Composition of dental calculus, Mechanism of formation of dental calculus, Mechanism of attachment of calculus to tooth surface, Etiologic significance of dental calculus, types of tooth brush, Use of powdered tooth brush, Dentifrices and its composition, Composition & mechanism of action of fluoridated toothpastes, Composition & mechanism of action of desensitizing toothpastes, Various types of tooth brushing methods and their significance in different patient. Oral irrigation device, Periodontal pocket irrigation, Home irrigation devices, Instruments and medicaments used in oral irrigation. Instrument design and classification, Describe various diagnostic instruments, Describe various manual periodontal instruments, Describe various scalers, Curettes and root planning instruments, Describe sonic, ultrasonic & piezo-electric scalers, Describe anatomic descriptions and considerations during periodontal instrumentation, Describe patient and operator position, Describe instrument grasp, Describe establishing finger rests, Describe instrument angulations, activation and adaptation, Describe various strokes of using manual instruments, Instrument sharpening, Principles and objective of sharpening, Various sharpening stones and material, Sharpening of manual periodontal instruments

Basic Periodontology II

Gingival inflammation, Various stages of gingival inflammation, Definition of gingivitis, Course, duration and distribution of gingivitis, Clinical features of gingivitis, Definition and classification of gingival enlargement, Location and distribution of gingival enlargement, Types of gingival enlargement, Gingival enlargements associated with systemic diseases, Neoplastic gingival enlargement, false enlargement Periodontitis and classification of periodontitis, Progression of periodontitis, Chronic periodontitis, Aggressive periodontitis, Definition of and classification of periodontal pocket, Clinical features, Pathogenesis and histopathology, Micro topography of gingival wall of the pocket, Pocket contents, Periodontal disease activity, Loss of attachment and bone loss, Difference between infrabony and suprabony pockets, Sequelae of periodontal pocket, periodontal abscess, periodontal cyst. Diagnosis and describe routine procedures of diagnosis, Case history taking, Clinical examination, Methods of probing, Types of probes, Routine investigative methods, prognosis in periodontics, Types of prognosis various phases in treatment planning of periodontal disease, Definition of scaling and root planning, Aims and objective of scaling and root planning, Indications and contraindications of scaling and root planning, Complications of improper scaling, Tooth polishing, Topical fluoride application, Follow up, Referral

Dental Radiography and Photography

Types of radiograph in dentistry along with its uses, Various use of X-ray, Use of, Use and importance/ application of X-Ray in Dentistry, Types of radiograph in dentistry along with its uses, Function of X-ray Film & Developer Solution, Various film Positioning devices, Various types of X-ray Developing machine,

Importance/application of Voltage Stabilizer in X-ray Machine, List down dental X-ray accessories e.g. Collimation, grid, intensifying screen, Various Position of X-ray Tube (Cone) during IOPA x-ray taking, Relation between X-Ray Cone and Film distance and film holding methods, X-ray

taking methods of upper Centrals & Laterals incisors, X-ray taking methods of upper canine, X-ray taking methods of upper Premolars, X-ray taking methods of upper Molars, X-ray taking methods of upper III Molars, X-ray taking methods of lower Centrals & Laterals, X-ray taking methods of lower canines, X-ray taking methods of lower premolars, X-ray taking methods of lower Molars, X-ray taking methods of Lower III molars, Lateral oblique view x-ray taking, Procedure of TMJ view x-ray taking, Procedure of PNS view-ray taking, Composition and function of Developer

Solution. Composition and function of Fixtured Solution, Methods of preparing Developing Solution, Methods of preparing Fixtured Solution, Requirement of X-ray Developing Room or Box, Steps of X-ray processing. Difference between Intra Oral and Extra Oral Technique, Basic Steps of Intra oral photographic technique of, Frontal View, Right Buccal View, Left Buccal View, Maxillary Occlusal, Mandibular Occlusal, Basic Steps of Extra oral photographic technique of, Full Face View, Profile View.

Basic Medical Procedure and First Aid

Process and equipment's required for History taking & physical Examination, Purpose of the history & physical. various routes of medication, "5 rights" in the administration of all medicines. Procedures for administering IM and IV medicines, or beginning IV fluids, according to guidelines. Principles and procedures for safe needle disposal, Technique of one handed recapping, to use when a safe needle disposal, container is not readily available. Safe needle management. Risks of administering drugs directly into the vein. Initial actions of the first aider. Essential principles of first aid. ABC's of vital functions, airway clear, breathing adequate, circulation and cardiac function good, Signs of common causes of unconsciousness. Management of unconscious person. Indication of CPR, Process of CPR, Complication of CPR, Difference between CPR procedure for adult, child, infant, pregnant woman. Management and referral system Concept of triage, Management and referral system.

Dental Public Health

Anaphylactic Shock, Syncope, Seizures, Bleeding exodontias. Explain indications, contraindications of extraction procedure, Take brief history of patient, Preparation for carrying out extraction, Complications of tooth extraction & its management, Post extraction care, Referral procedure of extraction, Define local anesthesia, classify, study composition, uses & complications in detail, Explain the debridement or irrigation of socket, Atraumatic Restorative Treatment (ART), List instrument & material used in ART, ART technique, Advantages and limitations of ART, infection control, Definition of Immunity, List the factors affecting disease, Enumerate the Transmissible Infections in Dentistry, List the categories of Task in relation to risk, Personal barrier technique for infection control, Disposal of clinical waste Indices, List and discuss the indices used in Oral Hygiene Assessment, Gingival Diseases, Periodontal Disease, Dental Caries and Treatment Needs, DMFT, Introduction of Fluoride, Sources of Fluoride for adults and children, Metabolism of Fluoride, Mechanism of Action of Fluorides in Caries Reduction, List the Fluoride delivery methods, List the Topical fluorides used in Preventive Dentistry, List the Fluoride vehicles, Modes of Action of Fluoride, Briefly discuss Toxicity of fluoride, Briefly discuss Community water fluoridation and school water fluoridation.

3. Community

Health Education

Overview of health education, Fundamental Factors of Health Education, Methods of Health Education, Media of Health Education, Planning of Health Education Programmes, Implementation

of Health Education Programs, Evaluation of Health Education Programmes, Health Promotion, Applied Health Education.

Epidemiology and Community Diagnosis

Natural history of disease, control, elimination, eradications & surveillance, tools (rate, ratio, proportion) and common measurements (eg. mortality, morbidity, disability, determinants of health i.e. health related factors) used in an epidemiological study. Common prevalent disease in Nepal. Community diagnosis and clinical diagnosis. Incubation period and communicable period of common diseases.

Office Health Management

Community Health Diagnosis & Health Profile, Micro Planning of Health Programme, Supervision, Monitoring and Evaluation of Health Programmes, Health Management Information System (HMIS), Planning and Management of Camps, Cold Chain Management, Health Training Management in different settings, Logistic Management, Organizational Structure and Functions of Ministry of Health and Population (MOHP), Department of Health Service (DoHS), Provincial Health Directorate (PHD), Health Office (HO), Primary Health Care Center (PHCC), Health Post (HP) and Basic Health service Centre (BHSC), Nepal Health Professional Council Act, 2053 and Regulation, 2056.

Environmental Health

Water Purification, Waste Management, Food Hygiene, Sanitation of public places, Health Hazards, Sanitary Latrines, Basic Measures in Controlling Rodents, Medical Importance and Measures of Controlling Common Vectors and Insects.

Food and Nutrition

Role nutrition plays in periodontal health and diseases, Common sign and symptoms of xerostomia and glossitis, Different factors contributing to xerostomia and glossitis, Determination of appropriate dietary recommendations for a patient with xerostomia and removable appliances, Dietary guidelines to be given to a new denture patient both pre and post insertion, Nutritional deficiencies and their impact of tooth and oral development, List various nutrients that are usually supplemented during pregnancy and lactation.