

## नेपाली सेना

### प्रा.उ.से.डेण्टल (आन्तरिक) पदको लिखित परीक्षाको पाठ्यक्रम

समय : २ घण्टा ३० मिनेट

पूर्णाङ्क : १००

उत्तीर्णाङ्क : ४०

यो पाठ्यक्रम नेपाली सेनाको विभिन्न ईकाईहरूमा रिक्त रहेको प्रा.उ.से.डेण्टल (आन्तरिक) पदका उम्मेदवार छनौट परीक्षाको लागि निर्धारण गरिएको हो । लिखित परीक्षामा सरिक हुने उम्मेदवारहरूको पेशा सम्बन्धि विषयलाई आधारमानी प्रश्नहरू सोधिने छ ।

- (क) लिखित परीक्षाको माध्यम नेपाली/अंग्रेजी वा दुवै भाषा हुनेछ ।
- (ख) लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र अर्को चरणको परीक्षामा सम्मिलित गराईने छ ।
- (ग) प्रश्न पत्र निर्माण गर्दा पाठ्यक्रममा समावेश भएका सबै विषयहरूलाई समेटिनेछ ।
- (घ) नेपाली सेनाको आवश्यकता तथा विविध परिस्थितमा नेपाली सेना अनुकूल हुने गरी उल्लेखित विवरणहरूमा हेरफेर हुन सक्नेछ ।
- (ङ) पाठ्यक्रमको रूपरेखा देहायमा उल्लेख गरे अनुसार हुनेछ ।
- (च) पाठ्यक्रम लागु मिति : २०७४/०४/१० गतेदेखि ।

विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली		प्रश्न संख्या X अङ्क	समय
पेशा सम्बन्धी	१००	४०	वस्तुगत (Objective)	बहुवैकल्पिक प्रश्न (MCQs)	४० प्रश्न X १ अङ्क = ४०	२ घण्टा ३० मिनेट
			विषयगत (Subjective)	छोटो उत्तर	८ प्रश्न X ५ अङ्क = ४०	
				लामो उत्तर	२ प्रश्न X १० अङ्क = २०	

## नेपाली सेना

### प्रा.उ.से.डेण्टल (आन्तरिक) पदको लिखित परीक्षा योजना र पाठ्यक्रम

विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली		प्रश्न संख्या X अङ्क	समय
पेशा सम्बन्धी	१००	४०	वस्तुगत (Objective)	बहुवैकल्पिक प्रश्न (MCQs)	४० प्रश्न X १ अङ्क = ४०	२ घण्टा ३० मिनेट
			विषयगत (Subjective)	छोटो उत्तर	८ प्रश्न X ५ अङ्क = ४०	
				लामो उत्तर	२ प्रश्न X १० अङ्क = २०	

#### पेशा सम्बन्धी विषयको पाठ्यक्रम

#### (SYLLABUS FOR DENTAL ASSISTANT)

### 1. ORAL ANATOMY & PHYSIOLOGY

#### 1.1 Definition and terminologies

1.1.1 Define anatomy, histology, embryology and physiology

1.1.2 Explain anatomical terminologies: mesial, distal, buccal, lingual, palatal, occlusal, mesial, dorsal, ventral

#### 1.2 Skeletal System

1.2.1 Maxilla and Mandible

1.2.2 Describe structure and parts of maxilla

#### 1.3 Muscular System

1.3.1 Enumerate facial muscles and functions

1.3.2 Muscles of mastication: Enumerate muscles of mastication and its functions

#### 1.4 Define Temporomandibular joint and its functions

#### 1.5 Oral Cavity

1.5.1 Explain various parts of oral cavity.

1.5.2 Describe tongue, its structure, muscles of tongue and taste bud

#### 1.6 Anatomy of Tooth

1.6.1 List and describe the morphological parts of tooth

1.6.2 Write down eruption and exfoliation sequence

1.6.3 Differentiate between deciduous and permanent dentition

#### 1.7 List different Tooth numbering system

#### 1.8 Salivary gland

1.8.1 Enumerate major salivary glands and its position

1.8.2 Composition and functions of saliva.

#### 1.9 Neurology

1.9.1 Enumerate cranial nerves and their functions

1.9.2 Describe trigeminal nerve and facial nerve

## **2. BASIC PERIODONTOLOGY**

### **2.1 Introduction**

2.1.1 Define periodontology/periodontics.

### **2.2 Normal Periodontium**

2.2.1 Enumerate parts of periodontium.

2.2.2 Describe gingiva and normal clinical features of gingiva.

2.2.3 Discuss periodontal ligament and functions of periodontal ligament

2.2.4 Discuss alveolar bone and its function.

### **2.3 Dental plaque**

2.3.1 Define dental plaque

2.3.2 Discuss role of dental plaque in periodontal disease

### **2.4 Dental calculus**

2.4.1 Definition, classification and composition of dental calculus.

2.4.2 Describe mechanism of formation of dental calculus (in brief)

### **2.5 Gingival inflammation**

2.5.1 Describe gingival inflammation, gingivitis.

2.5.2 Describe clinical features of gingivitis.

### **2.6 Gingival enlargement**

2.6.1 Describe and classify gingival enlargement.

2.6.2 Describe gingival enlargements associated with systemic diseases.

### **2.7 Gingival lesions**

2.7.1 Mention briefly about acute necrotizing ulcerative gingivitis, acute herpetic gingivostomatitis, pericoronitis and chronic desquamative gingivitis.

### **2.8 Describe periodontitis and its types**

### **2.9 Periodontal pocket**

2.9.1 Define periodontal pocket, its contents, Classification and Clinical features.

### **2.10 Explain Periodontal abscess and periodontal cyst**

### **2.11 Bone loss and pattern of bone destruction**

2.11.1 Explain bone loss and destruction.

2.11.2 Describe gingival recession, tooth mobility, trauma from occlusion and pathological tooth migration.

### **2.12 Identification periodontal instruments.**

### **2.13 Treatment**

2.13.1 Define scaling and root planning

2.13.2 Aims and objectives of scaling and root planning

2.13.3 Indications and contraindications of scaling and root planning

2.13.4 Discuss complications of improper scaling

2.13.5 Perform tooth polishing

2.13.6 Follow up

2.13.7 Referral

### **2.14 Patient management**

2.14.1 Discuss education, motivation and oral hygiene instructions to the patient.

2.14.2 Discuss pain and anxiety control

## नेपाली सेना

### **2.15 Role of local factors**

- 2.15.1 Describe role of unrestored missing teeth, mouth breathing and tongue thrusting
- 2.15.2 Describe effect of bruxism, tooth brush trauma and chemical irritation.

### **2.16 Plaque control**

- 2.16.1 Discuss importance of oral hygiene and its effect on general health
- 2.16.2 Discuss plaque control measures and its significance
- 2.16.3 Classify plaque control methods
- 2.16.4 Discuss importance of patient education on plaque control
- 2.16.5 Describe the use of disclosing agents

## **3. DENTAL MATERIALS, INSTRUMENTS AND DENTAL ASSISTING**

### **3.1 Gypsum products**

- 3.1.1 Classify gypsum products and its application in dentistry.
- 3.1.2 Explain manipulation process of gypsum products.

### **3.2 Dental cements**

- 3.2.1 Describe dental cements and classify various dental cements.
- 3.2.2 Zinc oxide eugenol cement, zinc phosphate cement, glass ionomer cement and calcium hydroxide
  - 3.2.2.1 Description, composition and manipulation process of zinc oxide eugenol cement

### **3.3 Composite resins**

- 3.3.1 Describe composite resins.
- 3.3.2 Explain the process of eye protection during light curing.

### **3.4 Dental amalgam**

- 3.4.1 Describe dental amalgam, composition and manipulation process of amalgam.
- 3.4.2 Explain mercury hazard and wastage disposal methods of dental amalgam.

### **3.5 Dental waxes**

- 3.5.1 Describe dental waxes.
- 3.5.2 Enlist & explain types of dental waxes.
- 3.5.3 Explain manipulation process of modelling wax.

### **3.6 Dental instruments**

- 3.6.1 Identification and classification of dental instruments
- 3.6.2 Identification of common diagnostic, periodontal, restorative, endodontic, prosthodontic, orthodontic, pedodontic and oral surgical instruments

### **3.7 Dental assisting**

#### **3.7.1 Enlist and identify various parts of dental chair and their functions**

#### **3.7.2 Chair-side assisting**

- 3.7.2.1 Demonstrate various positions of the operator and the assistant.
- 3.7.2.2 Role of dental assisting in special situations including medical emergencies.
- 3.7.2.3 Post treatment instructions after various dental procedures

#### **3.7.3 Enlist different methods of saliva control & isolation**

### **3.8 Maintenance of dental equipment and instruments**

#### **3.8.1 Cleaning**

- 3.8.1.1 Demonstrate cleaning of dental chair.

## नेपाली सेना

3.8.1.2 Demonstrate cleaning of dental equipment including suction apparatus, amalgamator, scaling machine, autoclave, light cure machine, compressor etc.

3.8.1.3 Describe disinfection of water pipe, handpiece chord, drainage system of dental chair unit.

### **3.8.2 Maintenance and servicing of dental equipment**

3.8.2.1 Describe air servicing of dental chair unit.

3.8.2.2 Demonstrate oiling/lubrication of dental chair unit and compressor.

3.8.2.3 Demonstrate oiling and storage of handpiece unit.

3.8.2.4 Demonstrate changing of cartridge of handpiece unit.

3.8.2.5 Demonstrate changing of bulb and cleaning of illumination panel.

3.8.2.6 Demonstrate changing of fuse wire of various electrical dental appliances

## **4. STERILIZATION**

### **4.1 Infection control**

4.1.1 Define infection control.

4.1.2 Enumerate and explain various levels of infection control.

4.1.3 Disinfection and various methods of disinfection.

4.1.4 Sterilization and various methods of sterilization.

4.1.5 Antiseptic and asepsis with example.

4.1.6 Basic knowledge on handling of autoclave, hot air oven and glass bead sterilizer

4.1.7 Basic knowledge on preparation of alcohol, gluteraldehyde.

### **4.2 Sterilization of dental instruments**

4.2.1 Process of sterilization and disinfection of various dental instruments

4.2.2 Describe sterilization of dental instruments and hand piece

### **4.3 Define universal precautions and its procedures**

### **4.4 Process of hand scrubbing in operatory with their significance**

### **4.5 Self protection**

4.5.1 Describe self protection in operatory.

4.5.2 Explain process of wearing face mask, gloves and gowns with their clinical significance

### **4.6 Decontamination**

4.6.1 Explain process of decontamination of gloves, linens and surgical drapes.

4.6.2 Decontaminate process of decontamination of dental equipment and instruments including dental chair, handpiece, suction apparatus, x-ray films

### **4.7 Clinical waste management**

4.7.1 Explain clinical waste and its types.

4.7.2 Discuss clinical wastes of dental operatory.

4.7.3 Procedure of waste management of dental operatory including amalgam

## **5. ORAL PATHOLOGY & MICROBIOLOGY**

### **5.1 Define Oral pathology and concept of disease (in brief)**

### **5.2 Brief knowledge on following:**

5.2.1 Inflammation, abscess, cellulitis, tumors, cysts, space infection and developmental anomalies.

### **5.3 Regressive alteration to tooth**

5.3.1 Attrition, abrasion and erosion - causes & clinical features of attrition.

## नेपाली सेना

### **5.4 Dental caries**

- 5.4.1 Define dental caries; explain etiology and clinical features of dental caries.
- 5.4.2 Role of diet in dental caries.
- 5.4.3 Classification of dental caries.
- 5.4.4 Describe sequelae of dental caries.
- 5.4.5 Describe prevention of dental caries.

### **5.5 Diseases of pulp and periapical tissues**

- 5.5.1 Classify diseases of pulp.
- 5.5.2 Describe etiology, clinical features and sequelae of pulpal disease.
- 5.5.3 Describe etiology, clinical features and sequelae of periapical disease.

### **5.6 Oral lesion and conditions**

- 5.6.1 Discuss common oral ulcerations and lesions afflicting oral cavity.
- 5.6.2 Discuss in brief about common vesiculo-bullous lesions afflicting oral cavity.
- 5.6.3 Discuss in brief about common viral lesions afflicting oral cavity.
- 5.6.4 Enumerate and explain various precancerous lesions and conditions.

### **5.7 Systemic diseases and their oral manifestations**

- 5.7.1 Discuss briefly oral manifestations of diabetes mellitus, leukemia, anemia, syphilis, tuberculosis, AIDS etc.
- 5.7.2 Discuss candidiasis and oral thrush.

### **5.8 Hypersensitivity of teeth**

- 5.8.1 Define hypersensitivity of teeth.
- 5.8.2 Describe causes of hypersensitivity of teeth.
- 5.8.3 Describe precautions of hypersensitivity of teeth.
- 5.8.4 Explain post-scaling hypersensitivity of teeth and its remedy.
- 5.8.5 Describe medicated dentrifices and their mechanisms of action.

## **6. BASIC DENTAL PHARMACOLOGY**

### **6.1 Introduction**

- 6.1.1 Define pharmacology and drug.

### **6.2 Dentrifices/Toothpaste**

- 6.2.1 Define dentrifices.
- 6.2.2 List properties, composition, functions and types of dentrifices.

### **6.3 Mouthwash**

- 6.3.1 Define mouthwash.
- 6.3.2 List the use of mouthwash.
- 6.3.3 Adverse effects of mouthwash.

### **6.4 Local anaesthetics**

- 6.4.1 Definition and classification of local anaesthesia.
- 6.4.2 Topical anaesthetic agents

## **7. DENTAL RADIOGRAPHY & PHOTOGRAPHY**

### **7.1 Dental Radiography**

- 7.1.1 Define X-ray.
- 7.1.2 Classify various intraoral and extra oral radiograph.

## नेपाली सेना

- 7.1.3 Various uses of x-ray.
- 7.1.4 Various major parts of dental x-ray machine and draw its diagram.
- 7.1.5 IOPA x-ray taking procedure
  - 7.1.5.1 Describe various position and angulations of x-ray tube (cone) during IOPA x-ray taking.
  - 7.1.5.2 Explain the relation between x-ray cone and film distance and film holding methods.
  - 7.1.5.3 Discuss the x-ray taking methods of individual tooth in the maxillary and mandibular arch.
- 7.1.6 Steps of X-ray film processing method.
- 7.1.7 Mention the parts of x-ray film (IOPA).
- 7.1.8 Describe the requirement of x-ray developing room or box.
- 7.1.9 X-ray radiation hazards & safety.
- 7.1.10 Describe various x-ray radiation hazards.
- 7.1.11 Discuss the basic safety to be taken in dental radiography.

### **7.2 Photographic technique in dentistry**

- 7.2.1 Difference between intraoral and extraoral technique.
- 7.2.2 Basic steps of intraoral and extraoral photographic techniques.
- 7.2.3 Care and maintenance technique of dental photographic equipment

## **8. DENTAL PUBLIC HEALTH & JURISPRUDENCE**

### **8.1 Introduction**

- 8.1.1 Define public health and dental public health.
- 8.1.2 List the principles followed in dental public health practice.
- 8.1.3 List the forms of dental health services.
- 8.1.4 Briefly discuss characteristics of public health techniques.
- 8.1.5 List and discuss the tools of dental public health.

### **8.2 Fluorides in preventive dentistry**

- 8.2.1 Sources of fluoride and Describe fluoride
- 8.2.2 List the fluoride delivery methods.
- 8.2.3 List the topical fluorides used in preventive dentistry.
- 8.2.4 Describe the modes of action of fluoride.
- 8.2.5 Briefly discuss toxicity of fluoride.
- 8.2.6 Briefly discuss community water fluoridation and school water fluoridation.

### **8.3 Behavior and its management in public health dentistry**

- 8.3.1 List and discuss the factors influencing preventive behaviour.
- 8.3.2 List the behavioural characteristics of a normal child.
- 8.3.3 List the categorical rating of behavioural patterns.
- 8.3.4 Discuss how behaviour management can be achieved in public health dentistry

### **8.4 School dental health programs**

- 8.4.1 Describe a school dental health program.
- 8.4.2 List and briefly discuss the aspects of school services.
- 8.4.3 List and discuss the important elements of school dental health program.

## नेपाली सेना

### **8.5 Dental manpower and dental auxiliary personnel**

- 8.5.1 Define dentist, dental specialist.
- 8.5.2 Define dental auxiliary and briefly discuss its classification.
- 8.5.3 List the degrees of supervision of auxiliaries

### **8.6 Occupational hazards and infection control in dentistry**

- 8.6.1 Define immunity
- 8.6.2 List the factors affecting disease.
- 8.6.3 Enumerate the transmissible infection in dentistry

### **8.7 Ethics**

- 8.7.1 Code of Ethics of Nepal Medical Council
- 8.7.2 Code of Ethics of Nepal Health Professional Council

### **8.8 Dental Health**

- 8.8.1 Dental practice & profession
- 8.8.2 Branches of dentistry.
- 8.8.3 Dental health service in Nepal.
- 8.8.4 Role and Duties of dental health auxiliaries
- 8.8.5 Working fields of dental health auxiliaries
- 8.8.6 Certification, registration & limitation of the dental health auxiliaries

### **8.9 Dental fraud & crimes**

- 8.9.1 Malpractice, quackery and compensation cases

## **9. PROSTHETICS (Laboratory Aspect)**

### **9.1 Impression trays, materials**

- 9.1.1 Define and classify impression materials.
- 9.1.2 Describe desirable properties of impression material.
- 9.1.3 Describe process of disinfection of impression material.
- 9.1.4 Describe process of storage of impression materials.
- 9.1.5 Describe and classify impression trays.
- 9.1.6 Identify various types of impression trays.
- 9.1.7 Discuss the methods of sterilization of impression trays.

### **9.2 Impression compound**

- 9.2.1 Define impression compound
- 9.2.2 Describe ideal requirements of impression compound
- 9.2.3 Explain manipulation process of impression compound

### **9.3 Alginate**

- 9.3.1 List and explain types of alginate.
- 9.3.2 Explain manipulation process of alginate.
- 9.3.3 Explain the process of loading alginate in the impression trays.
- 9.3.4 Describe the storage of alginate.

### **9.4 Elastomeric impression materials**

- 9.4.1 Enumerate and classify elastomeric impression materials.
- 9.4.2 Describe silicon based impression material and its manipulation.
- 9.4.3 Describe agar impression material and its manipulation.
- 9.4.4 Describe storage of elastomeric impression materials.

## नेपाली सेना

### 9.5 Dental models, cast and die materials

- 9.5.1 Describe dental models, cast and die materials.
- 9.5.2 Enlist different dental materials used for making model, cast and die.
- 9.5.3 Discuss manipulation process of dental plaster, dental stone and die stone.
- 9.5.4 Describe laboratory process of pouring of cast
- 9.5.5 Describe laboratory process of base forming of cast

यस पेशा सम्बन्धी विषयको पाठ्यक्रमका एकाईहरूबाट सोधिने प्रश्नहरूको संख्या निम्नानुसार हुनेछ ।

एकाई नं. (Unit No.)	अङ्कभार (Weightage)	बहुवैकल्पिक प्रश्न (MCQs) को संख्या	लामो उत्तर प्रश्नको संख्या	छोटो उत्तर प्रश्नको संख्या
1.	30	15	२ प्रश्न X १० अङ्क	८ प्रश्न X ५ अङ्क
2.				
3	35	15		
4				
5	15	5		
6				
7	20	5		
8				
9				
जम्मा	१००	४०	२०	४०