प्राविधिक प्रहरी निरीक्षक (डाइटेक्टर्स) समूहको खुला प्रतियोगितात्मक परीक्षा योजना

पाठ्यक्रमको रूपरेखा: - वर्तमान नियमानुसार दुई चरणमा परीक्षा लिखिने हुँ 

प्रथम चरण: - लिखित परीक्षा (Written Examination) पूर्णाङ्क : २५०
द्वितीय चरण: - अन्तरवाता (Interview) पूर्णाङ्क : ३५

प्रथम चरण: - लिखित परीक्षा योजना (Examination Scheme)

<table>
<thead>
<tr>
<th>पत्र</th>
<th>विषय</th>
<th>पूर्णाङ्क</th>
<th>उत्तीर्णाङ्क</th>
<th>परीक्षा प्रणाली</th>
<th>प्रभुत्व योजना</th>
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<td>डाइटेक्टर्स</td>
<td>१००</td>
<td>४०</td>
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<td>१००×१ = १००</td>
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<tr>
<td>द्वितीय</td>
<td></td>
<td>१००</td>
<td>४०</td>
<td>विषयगत (Subjective)</td>
<td>१०×१० = १००</td>
<td>३ घण्टा</td>
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<tr>
<td>तृतीय</td>
<td>नेपाल प्रहरी सेवा सामग्री</td>
<td>५०</td>
<td>२०</td>
<td>वस्तुगत बहुउत्तर</td>
<td>१०×२ = २०</td>
<td>१ घण्टा १० मिनेट</td>
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द्वितीय चरण

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<td>व्यक्तिगत अन्तरवाता</td>
<td>३५</td>
<td>मौखिक</td>
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</table>

१. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुबै हुन सक्नेछ।
२. पाठ्यक्रमको प्रथम तथा द्वितीय पत्रको विषयवस्तु एउटै हुनेछ।
३. प्रथम र द्वितीय पत्रको लिखित परीक्षा छघाईएको हुनेछ।
४. प्रथम तथा द्वितीय पत्रहरुका एकाइहरुका सोधिने योजनाको निम्नानुसार हुनेछ।
<table>
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<tr>
<th>Unit</th>
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5. बस्तुगत बहुउत्तर (Multiple Choice) प्रश्नहरूको उत्तर सही दिएमा प्रत्येक सही उत्तर बापट पुराअइ प्रदान गरिनेछ। मनेठ गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापट २० प्रतिशत अइ कट्टा गरिनेछ। तय उत्तर नहुनेमा त्यस बापट अइ दिइने छैन र अइ कट्टा पनि गरिने छैन।

6. द्वितीय पत्रको विषययात प्रश्नका लागी नोदिएका १० अइका प्रश्नहरूको हकमा १० अइको एउटा लामो प्रश्न वा एउटै प्रश्नका दुई वा दुई भन्दा बर्दी भाग (Two or more parts of a single question) वा एउटा प्रश्न अन्तर्गत दुई बा बर्दी टिपणीहरू -Short notes_ सोजन सकिने छ।

7. यस पाठ्यक्रममा जेसुकी लेखिएको भएता पनि पाठ्यक्रममा परेका ऐन, नियमहरू परिशोधको मिति भन्दा ३ (तीन) महिना अगाडि (संशोधन भएका वा संशोधन भई हटाइएका वा फिर संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा रेको सम्भनु पर्दछ।

8. प्रथम चरणको लिखित परीक्षाको छतौट भएका उम्मेदवारहरूलाई माध्यमिक प्रत्यांतरामा सम्मलित गराइनेछ।

9. अन्तर्वांतोंको अंककार सम्बन्धमा प्रहरी सेवाको पदमा नियुक्ति र बढूडा गर्दा अपनाउनु पनि सामान्य सिद्धान्त, २०६९ को अनुसूची-१९ मा व्यस्तता भए ब्योमोजन हुनेछ।

10. पाठ्यक्रम लागू मिति :-
UNIT-I

(A) HUMAN NUTRITION = 3%  
1. Concept and definition of terms-Nutrition, Malnutrition and Health, Scope of Nutrition  
4. Growth & development from infancy to adulthood: Somatic, physical, brain and mental development, puberty, menarch, prepubertal and pubertal changes, Factors affecting growth and development. Importance of Nutrition for ensuring adequate development  
5. Growth monitoring and promotion: Use of growth charts and standards, Preventions of growth faltering

(B) HUMAN NUTRITION = 3%  

1. Nutrition During Pregnancy  
Factors (non-nutritional) affecting pregnancy outcome, importance of adequate weight gain during pregnancy, antenatal care and its schedule, Nutritional requirements during pregnancy and modification of existing diet and supplementation, Deficiency of nutrients, specially energy, iron folicacid, protein, calcium, iodine. Common problems of pregnancy and their managements, specially - nausea, vomiting, pica, food aversions, pregnancy induced hypertension, obesity, diabetes.Adolescent pregnancy

2. Nutrition during Lactation:  
Nutritional requirements during lactation, dietary management, food supplements, galactogogues, preparation for lactation, Care and preparation of nipples during breast feeding

3. Nutrition during Infancy:  
Infant physiology relevant to feeding and care, Breast feeding- colostrums, its composition and importance in feeding, Initiations of breast feeding. Advantages of exclusive breast feeding, Basic principles of breast feeding. Introduction of supplementary foods, initiation and management of weaning, Baby-led weaning. Bottle feeding-circumstances under which bottle feeding is to be given, Care & sterilization of bottles, Preparation of formula, Mixed feeding, breast feeding and artificial feeding

4. Management of preterm and low birth weight babies
5. Nutritional needs of toddlers, preschool, school going children- and adolescents - Dietary management

UNIT-II

(A) FOOD SCIENCE = 3%

1. Basic concept on Food, Nutrients, Nutrition
2. Classification of Food, Classification of Nutrients
3. Carbohydrates - Definition, Classification. Structure and properties of Monosaccharides - glucose, fructose, galactose Disaccharides - Maltose, lactose, sucrose, Polysaccharides - Dextrin, starch, glycogen, resistance starch
4. Lipids - Definition, Classification & Properties, Fattyacids - composition, properties, types.
5. Proteins - Definition, Classification, Structure & properties, Amino acids - Classification, types, functions
6. Carbohydrates - Sources, daily requirements, functions. Effects of too high - too low carbohydrates on health, Digestion & Absorption, Blood glucose and effect of different carbohydrates on blood glucose, Glycemic Index, Functional role of Sugars in food, Fermention of Sugar
7. Proteins - Sources, daily requirements, functions. Effect of too high - too low proteins on health, Digestion & absorption, Assessment of Protein quality (BV, PER, NPU), Factors affecting protein bio-availability including anti-nutritional factors
8. Lipids - Sources, daily requirements, functions, Digestion & Absorption, Role & nutritional significances of PUFA, MUFA, SFA, W-3 fatty acid

(B) FOOD SCIENCE = 3%

1. Dietary Fibre - Classification, sources, composition, properties & nutritional significance
3. Vitamins - Bio-Chemical and Physiological Role Physiological role, bio-availability and requirements, sources, deficiency & excess.
4. Water - Functions, daily requirements, Water balance
5. Elementary idea of Probiotics, Prebiotics, Organic Food

UNIT-III

(A) PHYSIOLOGY = 6%

1. Structure & Functions of cells
2. Blood and its composition, Blood groups, Coagulation of Blood, structure & function of Heart, Heart rate, Cardiac cycle, Cardiac output, Blood pressure & their regulations, Circulation of blood (general course of circulation)

3. Gastrointestinal System:
   - Structure and function of various organs of the GI tract, Digestion and absorption of food, The role of enzymes and hormones on digestion and absorption

4. Reproductive System:
   - Structure and function of Male and Female Sex glands and organs, Roll of hormones in reproduction, Menstrual Cycle Spermatogenesis, Physiology of pregnancy, Parturition, Lactation and Menopause

5. Excretory System:
   - Structure and functions of kidney, bladder, formation of urine, role of kidney in homeostasis, Structure arid-function of Skin, Regulation of temperature of the body

6. Respiratory System: Structure of respiratory system
   - Mechanism of respiration and its regulations, 02 and C02 transport in blood, Acclimatization, Anoxia

(B) PHYSIOLOGY = 3%

1. Nervous System
   - Elementary anatomy of Nervous System, Sympathetic and Parasympathetic nervous System, Special Senses

2. Musculoskeletal System:
   - Types of Muscles, functions and structure, formation of bone (General Idea)

3. Endocrine System:
   - Structure and functions of different endocrine glands, Symptoms of deficiency and excess secretion of different endocrine glands

Unit IV
FUNDAMENTALS OF FOOD PREPARATION = 3%

1. Processes involved in food preparation.
2. Planning and preparation of adequate meal for different age groups with special reference to different Physiological conditions

UNIT – V
COMMUNITY NUTRITION = 8%

1. Concept of Community, types of Community, Factors affecting health of the Community.
2. Nutritional Assessment and Surveillance: Meaning, need, objectives and importance
3. Nutritional assessment of human:
Clinical findings, nutritional anthropometry, biochemical tests, biophysical methods

4. Diet survey:
   Need and importance, methods of dietary survey, Interpretation - concept of consumption unit, individual and total distribution of food in family, adequacy of diet in respect to RDA, concept of family food security. 10

5. Clinical Signs:
   Need & Importance’s, identifying signs of PEM, vitamin A deficiency and iodine deficiency, Interpretation of descriptive list of clinical signs

6. Nutritional anthropometry:
   Need and importance, standard for reference, techniques of measuring height, weight, head, chest and arm circumference, interpretation of these measurements. Use of growth chart

7. International, national, regional agencies and organizations, Nutritional intervention programmes to combat malnutrition.

UNIT – VI
PUBLIC HEALTH = 5%

1. Health and Dimension of Health: Positive health versus absence of disease

2. Secondary Sources of Community Health data:
   Sources of relevant vital statistics of infant, child & maternal mortality rates

3. Immunization:
   Importance and schedule of Immunization for children, adults and for foreign travels, role of individual, family and community in promoting health

4. Community Water and Waste Management:
   Importance of water to the community, etiology and effects of toxic agents, water borne infectious agents, sources of water, safe drinking water, potable water, waste and waste disposal, sewage disposal and treatment, solid waste and disposal, liquid waste disposal

UNIT - VII
EPIDEMIOLOGY = 4%

1. Concept of Epidemiology:
   Study of the epidemiologic approach-determinants of disease preventive & social means, vital statistics and their significance.

2. Communicable and infective disease control:
   Nature of communicable and infectious diseases, infection, contamination, disinfections, decontamination, transmission direct & indirect, vector borne disease infecting organisms and positive agents, environmental agents and epidemiological principles of disease control
3. Community Food Protection:
   Epidemiology of food borne disease-modes of transmission, control measures and prevention

PAPER – VIII

(A) FOOD COMMODITIES = 4%

1. Cereals and Millets: Structure, processing, storage, use in various preparation, variety, selection and cost, Cereal products, breakfast cereals, fast food
2. Pulses and Legumes: Structures, Selection and variety, Storage, Processing and use in different preparations, Nutritional aspects and cost
3. Milk and Milk products: Composition, Classification, Selection Quality and Cost, Processing, Storage and uses in different preparations, Nutritional aspects, shelf life and spoilage
4. Eggs: Production, grade, quality selection, storage and spoilage, cost nutritional aspects and use in different preparations
5. Meat, Fish and Poultry: Types, Selection, Purchase, Storage, Uses, preparations Cost, Spoilage of fish Poultry and meat
6. Vegetables and Fruits: Variety, Selection, purchase, storage, availability causes and nutritional aspects of raw and processed products and use in different preparations

(B) FOOD COMMODITIES = 4%

1. Sugar and sugar Products: Types of natural sweeteners, manufacture, selection, storage and use as preserves, stages in sugar cookery
2. Fats and oils: Types and sources (animal and vegetable), Processing, uses in different preparations, storage, cost and nutritional aspects
3. Raising and Leavening agents: Types, constituents, uses in cookery and bakery, storage
4. Food Adjuncts: Spices, condiments, herbs, extracts; concentrates, essences, food colours, origin, classification, description, uses, specifications, procurements and storage
5. Convenience Foods: Role, types, advantages, uses, cost and contribution to diet
6. Salt: Types and uses
7. Beverages: Tea, Coffee, Chocolate and Cocoa Powder-Processing, cost and nutritional aspects, other beverages-Aerated beverages, juices
8. Preserved Products: Jams, Jellies, Pickles, Squashes, Syruptypes, composition and manufacture, selection, cost, storage, uses and nutritional aspects
9. Food Standards: ISI, Agmark, FPO, MPO, PFA

UNIT – IX
COMMUNITY NUTRITION = 4%

1. Anthropometric Measurement of infant - Length, weight, circumference of chest, Mid- upper arm circumference, precautions to be taken.
2. Comparison with norms and interpretation of the nutritional assessment data and its significance Weight for age, height for age, weight for height, Z scores, body Mass Index (BMI) Waist - Hip Ratio (WHR)
3. Growth charts - plotting of growth charts, growth monitoring and promotion
4. Clinical assessment and signs of nutrient deficiencies specially PEM (Kwashiorkor, marasmus) I vitamin A deficiencies, Anaemia, Rickets, B-Complex deficiencies
5. Estimation of food and nutrient intake - Household food consumption data, adult consumption unit, 24 hours dietary recall, 24 hours record, Weighment method, food diaries, food frequency data, use of each of the above, information available through each individual, collection of data, estimation of intakes
6. Community field survey

UNIT – X
(A) NUTRITIONAL BIOCHEMISTRY = 5%
1. Introduction to Biochemistry: Definition, objectives, scope and inter relationship between biochemistry and other biological science
2. Enzymes: Definition, types and classification of enzymes, definition and types of coenzymes, specificity of enzymes, Isozymes, enzyme Kinetics including factors affecting enzyme action, velocity of enzyme catalyzed reactions, enzyme inhibition
4. Proteins: General reaction of amino acid metabolism, urea cycle, Lipoproteins: Types, composition, role and significance in disease (in brief)
(B) NUTRITIONAL BIOCHEMISTRY = 5%
2. Introduction to Nucleic acids: Structure, replication, transcription, genetic code (in brief) elementary knowledge of biosynthesis of proteins.
4. Minerals: Biochemical role of inorganic elements

UNIT – XI
FOOD MICROBIOLOGY = 3%
1. Brief history of food microbiology and introduction to important micro organisms in foods.
2. Cultivation of microorganisms, Nutritional requirements of micro organisms, types of media used, methods of isolation.
3. Primary sources of microorganisms in foods, physical and chemical methods used in the destruction of microorganism in foods: (Sterilisation & Disinfection).
4. Fundamentals of control of microorganism in foods:
   Extrinsic and intrinsic parameters affecting growth and survival of microbes, use of high and low temperature, dehydration, freezing, freeze-drying, irradiation and preservatives in food preservation.
5. Food Spoilage:
   Contamination and microorganisms in the spoilage of different kinds of foods and such as cereal and cereal products, vegetable and fruits, fish and other sea foods, meat and meat products, eggs and poultry, milk and products, canned foods.
6. Public health hazards due to contaminated foods:
   Food borne infections and intoxications: Symptoms, mode of transmission and methods of prevention, investigation and detection of food borne disease out-break.

UNIT-XII
SANITATION AND HYGIENE = 4%

1. Importance of sanitation and hygiene in food, kitchen hygiene, employee's health, food plant hygiene, food laws. 16
2. Indices of food, milk and water: Sanitary quality, Microbiological criteria of foods, water and milk testing (Bacteriological analysis)
3. Importance of Pest control
4. Hygienic handling of Food
6. Precaution to be taken while handling pesticides

UNIT-XIII
(A1) DIET THERAPY-4%

1. Basic concepts of diet therapy: Therapeutic adaptations of normal diet, principles and classification of the therapeutic diets.
2. Team approach to health care. Assessment of needs
3. Routine Hospital Diets: Regular, light, soft, fluid, potential and enteral feeding
4. Energy modifications and nutritional care for weight management Identifying the overweight and obese, etiological factors contributing obesity, prevention and treatment. Low energy diets, balanced energy reduction and behavioural modifications, Underweight - etiology assessment, high energy diets for weight gain, anorexia nervosa and bulimia
5. Etiological factors, symptoms, diagnostic tests and management of upper GI tract disease - disease of oesophagus and dietary management, diseases of stomach and dietary management. Gastric and duodenal ulcers and dietary management

(A2) DIET THERAPY-4%

1. Diets for febrile conditions, infections and surgical conditions.

2. Etiology, symptoms, diagnostic tests and management of intestinal diseases: Diarrhoea, steatorrhoea, Diverticular disease, inflammatory bowel disease, Ulcerative Colitis, Flatulence, Constipation, Irritable Bowel Syndrome, Haemorrhoids
3. Anaemias: Pathogenesis and dietary management: Nutritional Anaemias, thalassemia, resulting from Acute Haemorrhage
4. Diseases of the liver, Exocrine Pancreas and Billiary System, Liver function tests and nutritional care in liver disease in the context of results, Dietary care and management in - Viral Hepatitis, Cirrhosis of liver, Dietary care and management in diseases of Gall Bladder and pancreas-Cholelithiasis, Cholecystitis, Cholecystectomy, etc

UNIT-XIV
(B1) DIET THERAPY – 3%
1. Diet in disease of the endocrine pancreas:
Diabetes Mellitus: Classification, symptoms, diagnosis, management - insulin therapy, oral hypoglycaemic agents, glucose monitoring at home, dietary care and nutrition therapy, meal plan (with and without insulin), special diabetic foods, sweetness and sugar substitute.

2. Diseases of the cardiovascular system:
Atherosclerosis Hyperlipidemias - brief review of Lipoprotein Dietary care: Ischemic Heart Disease - nutritional management. Hypertension - etiology, prevalence, nutritional management. Prevention of cardiovascular diseases and diet

(B2) DI ET THERAPY – 3%

1. Renal Diseases:
   1. Classification, etiology, symptoms of Glomerulonephritis,
   2. Dietary management for Glomerulonephritis, Acute and Chronic Nephritis, Nephrotic syndrome, Renal failure and Uraemia, Nephrolithiasis
   3. Use of sodium and potassium exchange list

2. Allergies:
Definitions, symptoms, diagnosis and dietary management - food selection

UNIT -XV
A FOOD SCIENCE =1%

1. Identification of Mono, Di and Polysaccharides
2. Identification of Proteins (albumin, gelatin, peptone)
3. Identification of glycerol
4. Determination of Acid value, Saponification value of fats and oils
5. Estimation of amino nitrogen by titrimetric method

B NUTRITIONAL BIOCHEMISTRY = 3%

Blood constituents:
1. Estimation of serum Protein (Biuret method and Lowry method)
2. Estimation of blood Glucose (Folin Wu method)
3. Estimation of Serum inorganic phosphorus (Fiske and SubbaRow method)
4. Estimation of blood creatinine

UNIT -XVI
A FOOD ADULTERATION= 3%
1. Detection of Vanaspati in Ghee/Butter
2. Detection of Khesari flour in besan
3. Detection of Metanil yellow in turmeric/colourd sweet products
4. Detection of Argemon oil in edible oil
5. Detection of artificially colour / foreign matter in tea (dust/leaves)

B FOOD PRESERVATION = 3%
1. Different methods of Food preservation – Drying, Freezing, Frying, canning, bottling etc
2. Aseptic handling: Sources of contamination of foods
3. Preparation of pickles, tomato sauce, chili sauce, jelli, tomato puree squash etc
4. Visit to canning industry and dairy firm etc

UNIT - XVII

(A) DIET THERAPY = 3%
1. Planning and preparation of normal diets
2. Planning and preparation of fluid diets
3. Planning and preparation of soft/semi solid diets
4. Planning and preparation of high protein diets
5. Planning and preparation of low fat and low caloric diets
6. Planning and preparation of high fibre diets

(C) DIET THERAPY =3%
Planning and preparation of Diets for the following diseases:
1. Diabetes mellitus
2. Peptic ulcers,
3. Viral hepatitis,
4. CHD
5. Gout
6. Anemias

Model Questions:
1. Write the nutritional requirement during pregnancy and modification of diet in Nepalese context.
2. Explain Digestion of Protein and Enzymes related to protein digestion.
3. Make a dietary management to a 60 years lady of 50 kg, suffering from DM type II.
4. What is food adulteration? What are its merits and demerits?
5. Write short notes on Kitchen Hygiene.