

प्रदेश लोक सेवा आयोग

प्रदेश नं. १, विराटनगर

स्थानीय सरकारी सेवा अन्तर्गत प्राविधिक तर्फ कृषि सेवा, भेटेरिनरी समूह, छैठौं तहका पदहरूको खुला
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

प्रथम पत्र: General subject

15 Marks

1. Introduction

- 1.1 History of livestock and fisheries sector development in Nepal
- 1.2 Overview of Nepalese livestock sector: current status and scope
- 1.3 Livestock statistics of Nepal and province 1
- 1.4 Structure of livestock sector at federal, provincial and local levels
- 1.5 Role of research in livestock sector development, Nepal Agricultural Research Council (NARC), its vision and functions
- 1.6 Agricultural education systems in Nepal
- 1.7 Public, private, NGOs, CBOS, co-operatives and farmer groups involvement in research, extension and education
- 1.8 Participatory planning, monitoring, evaluation and feedback
- 1.9 Planning, implementation, monitoring and evaluation of livestock projects
- 1.10 Climate change and livestock sector
- 1.11 Gender equity and social inclusion (GESI) and women's role in Nepalese agriculture
- 1.12 Government planning, budgeting and accounting system
- 1.13 Formulation process of policy, acts, rules, regulations and standards at local level

2. Legislations, plans, policies, strategies and regulatory functions **25 Marks**

- 2.1 The constitution of Nepal (Provisions related to Livestock)
- 2.2 Local Government Operation Act, 2074
- 2.3 Co-operation and inter-relation between Federal, Provincial and Local level governments
- 2.4 Civil service act and regulation (Federal and provincial)
- 2.5 Agriculture Development Strategy (ADS) (2015-2035)
- 2.6 Animal Health and Livestock Services Act, 2055 and its regulation, 2056
- 2.7 Animal Slaughterhouse and Meat inspection act, 2055 and its regulation, 2057
- 2.8 Nepal Veterinary Council Act, 2055 and regulation, 2057
- 2.9 Feed Act, 2033 and regulation, 2041
- 2.10 Drug Act, 2035
- 2.11 Poultry Policy, 2068
- 2.12 Bird Flu Control Order, 2064
- 2.13 Animal transportation standard, 2064
- 2.14 कृषि व्यवसाय प्रवर्द्धन अनुदान कार्यविधि, २०७६ (प्रदेश नं. १)
- 2.15 Livestock insurance policies and programs
- 2.16 Livestock related national and provincial (province no. 1) periodic plans, policy, programs and projects

- 2.17 World organization for animal health (OIE), its objectives, structure, function, Terrestrial Animal health code, Aquatic animal health code
- 2.18 World Trade Organization (WTO): Sanitary and phytosanitary measures (SPS) and Technical barrier to trade (TBT)

40 Marks

3. Clinical subjects

3.1 Veterinary medicine

- 3.1.1 Normal physiological values like body temperature, rectal temperature, heart rates, respiratory rates, urinary volume and fecal output of different species of animals
- 3.1.2 Etiology, epidemiology, transmission, pathogenesis, symptoms, diagnosis, treatment, control and prevention of common bacterial and viral diseases of livestock, poultry, equine and pets
- 3.1.3 Etiology, epidemiology, transmission, pathogenesis, symptoms, diagnosis, treatment, control and prevention of Transboundary animal disease (TADs)
- 3.1.4 Etiology, epidemiology, transmission, pathogenesis, symptoms, diagnosis, treatment, control and prevention of the common parasitic disease of livestock and poultry
- 3.1.5 Ecto-parasitism and their treatment, prevention and control
- 3.1.6 Etiology, epidemiology, transmission, pathogenesis, symptoms, diagnosis, treatment, and control of protozoan diseases of livestock and poultry
- 3.1.7 Etiology, epidemiology, transmission, pathogenesis, symptoms, diagnosis, treatment, and control of the common disease caused by Chlamydia, Rickettsia and Fungi in different species of animals
- 3.1.8 Metabolic and production diseases and their prevention and control
- 3.1.9 Nutritional deficiencies disease
- 3.1.10 Diagnosis, treatment and management of different form of poisonings and snake bite
- 3.1.11 Prospects and constrains of animal and poultry vaccine production in Nepal, their uses and abuses

3.2 Veterinary surgery

- 3.2.1 Antiseptics and disinfectants
- 3.2.2 Sterilization of surgical materials and instruments.
- 3.2.3 Inflammations, Abscess, Tumors, Cysts, Hematoma, Hernia and their treatment
- 3.2.4 Different types of wounds and their treatment
- 3.2.5 Gangrene, Burn, Scald, Frost bite and their treatment
- 3.2.6 Fractures and dislocations, their diagnosis and treatment
- 3.2.7 Special surgery: Caesarian section, Ovario-hysterectomy, Stringhalt, Neutering

3.3 Veterinary obstetrics and gynecology

- 3.3.1 Normal reproductive cycle of different farm animals and dogs
- 3.3.2 Detection of heat
- 3.3.3 Artificial insemination

- 3.3.4 Pregnancy diagnosis
- 3.3.5 Embryo transfer
- 3.3.6 Infertility and sterility
- 3.3.7 Diagnosis and treatment of silent estrus, an-estrus, repeat breeders metritis, endometritis and pyometra
- 3.3.8 Dystocia and its correction
- 3.3.9 Prolapse of uterus, bladder and vagina
- 3.3.10 Use of hormones and prostaglandins
- 3.3.11 Infectious disease causing abortions
- 3.4 Epidemiology, veterinary public health, animal welfare, one health
 - 3.4.1 Surveillance and monitoring of disease
 - 3.4.2 Different types of epidemiological studies
 - 3.4.3 Outbreak investigation
 - 3.4.4 Epidemiological reporting practices in Nepal
 - 3.4.5 Cost analysis of the disease control programs
 - 3.4.6 Risk analysis
 - 3.4.7 Diagnosis, surveillance and control of various zoonotic disease
 - 3.4.8 Milk hygiene
 - 3.4.9 Concept of HACCP (Hazard analysis and critical control point)
 - 3.4.10 Concept and strategies of One health
 - 3.4.11 Animal welfare
- 3.5 Veterinary extension
 - 3.5.1 Classification of extension teaching methods
 - 3.5.2 Public private partnership
- 3.6 Clinical pathology and parasitology
 - 3.6.1 Materials to be sent to laboratory for different disease diagnosis
 - 3.6.2 Hematological and biochemical examination of sample for disease diagnosis
 - 3.6.3 Liver and kidney functions tests
 - 3.6.4 Urine analysis
 - 3.6.5 Blood and urine culture and antibiotic sensitivity tests
 - 3.6.6 California mastitis tests (CMT)
 - 3.6.7 Important diagnostic tests: Different staining procedures, Tuberculin tests in animals, Test for pullorum disease (Rapid stained antigen), Brucellosis tests (RBPT and milk ring test), Test for rabies (Negri bodies test)
 - 3.6.8 Postmortem examination of different animal species
 - 3.6.9 Clinical parasitology (Examination of feces: direct smear method, concentration method and floatation method)
 - 3.6.10 Examination of skin scrapping
 - 3.6.11 Bacterial, Viral and Fungal serological techniques
 - 3.6.12 Enzyme Linked Immunosorbent Assay (ELISA)

10 Marks

4. Para-clinical subjects

- 4.1 Veterinary microbiology
 - 4.1.1 Bacterial genetics, mutation and variations associated with virulence

- 4.1.2 Antigenicity; Drug resistance
- 4.1.3 Principles of antiseptics, sterilization and disinfection
- 4.1.4 Resistance and immunity, antigen-antibody reaction and methods of detection Cell mediated and humoral immunity and immune mechanism. Immune system and its development, Antigen-antibody reactions.
- 4.1.5 Immunization of animals
- 4.1.6 Hypersensitivity-allergy
- 4.1.7 Bacteriophage, their description and application
- 4.1.8 Laboratory techniques for bacterial, viral, fungal culture and identification
- 4.1.9 Important diseases of domesticated animals caused by bacteria, viruses, rickettsia, chlamydia and fungi
- 4.2 Veterinary parasitology
 - 4.2.1 Parasites and parasitism, types of parasitism, host-parasite relationship
 - 4.2.2 Importance of immunity against parasitic diseases
 - 4.2.3 Classification and nomenclature of parasites and characteristics of different classes of parasites
 - 4.2.4 Parasite development in the host system
 - 4.2.5 Antiparasitic and anthelmintic medication, their use and abuse. anthelmintic resistance
 - 4.2.6 General description, classification, morphological characteristics and diseases caused by helminthes, arthropods, insects and arachnids of domesticated animals and birds and their epidemiology, effects and methods of controlling them
 - 4.2.7 Protozoon parasites of domesticated animals and birds, their classification, morphology and the diseases caused by them with epidemiology, effects and control strategies
 - 4.2.8 Identification of different parasites and the methods of their culture and laboratory growth
- 4.3 Veterinary pathology
 - 4.3.1 Pathological responses of body to infection
 - 4.3.2 Inflammation, classification and changes in inflammatory responses
 - 4.3.3 Pathological disturbances and responses in circulatory system, cell metabolism, pigment metabolism
 - 4.3.4 Disturbances in growth, neoplasm and cancer
 - 4.3.5 Healing, fever
 - 4.3.6 Uroliths, choleliths, sialoliths, pancreoliths, enteroliths
 - 4.3.7 Immune reactions, hypersensitivity and auto immunity
 - 4.3.8 Pathological changes in diseases caused by bacteria, viruses, fungus and parasites of domesticated animals and birds
- 4.4 Veterinary pharmacology and toxicology
 - 4.4.1 Anesthetics, hypnotics, sedatives, tranquilizers, analgesics, analeptics, antipyretics, histamines and antihistamines
 - 4.4.2 Anesthetics, neuromuscular blocking agents, peripheral and central muscle relaxants

- 4.4.3 Drugs acting on autonomic nervous system, neurohumoral transmission, adrenergic antagonists, cholinergic antagonists
- 4.4.4 Drugs acting on cardiovascular system, digestive system, respiratory system, urogenital system and skin and mucus membrane
- 4.4.5 Endocrine pharmacology
- 4.4.6 Vitamins
- 4.4.7 Antibacterial agents, antifungal agents, antiviral and anticancer agents, antiprotozoal agents and Anthelmintics
- 4.4.8 Cytotoxic and immunosuppressive drugs
- 4.4.9 Hormones, prostaglandins, corticosteroids
- 4.4.10 Toxicity caused by metals and non-metals, plants, commonly used drugs, agrochemicals, venomous bites and stings, environmental toxicity

10 Marks

5. Pre- clinical subjects

5.1 Veterinary anatomy

- 5.1.1 Gross anatomy of skeletal system, muscular system, nervous system, digestive system, urogenital system, circulatory system, respiratory system, reproductive system, glandular system and sense organs of domesticated animals and poultry
- 5.1.2 Introduction to cell structure, cell division and basic tissue of body. Histology of the organs of musculoskeletal, digestive, respiratory, urinary, reproductive, nervous, cardiovascular, endocrine, lymphoid, sense organs of domesticated animals and birds
- 5.1.3 General embryology, gametogenesis, fertilization, and development of fetus and body organs in domesticated animals and birds

5.2 Veterinary physiology

- 5.2.1 General function and mechanism of action of various organs of circulatory, digestive, respiratory, urinary, reproductive, nervous, sensory system, endocrine system of domesticated animals and birds
- 5.2.2 Composition and function of tissue fluids
- 5.2.3 Mechanism of respiration and gaseous exchange

5.3 Biochemistry

- 5.3.1 Biochemistry of respiration, renal function and acid base balance
- 5.3.2 Biochemistry of digestion and metabolism of carbohydrate, fat, protein, nucleic acid, minerals and trace elements
- 5.3.3 Basal and energy metabolism
- 5.3.4 Biochemistry of hormones and enzymes
- 5.3.5 Diagnostic biochemistry
- 5.3.6 Immunochemistry
- 5.3.7 Biochemistry of cellular and sub cellular components
- 5.3.8 Biochemistry of carbohydrate, lipids, proteins

5.4 Animal nutrition

- 5.4.1 Animal feed classification, nutritional requirements, feeding system and feeding standards of farm animals and birds

- 5.4.2 Functions of various nutrients and process of digestion in ruminants, non-ruminants and birds
 - 5.4.3 Ration formulation for farm livestock and birds
 - 5.5 Livestock production and management
 - 5.5.1 Care and management of farm livestock and poultry during different production and growth stages
 - 5.5.2 Housing system for animals and birds
 - 5.5.3 Indigenous and exotic breeds of livestock and poultry
 - 5.5.4 System of breeding and selection in farm livestock and poultry birds
 - 5.5.5 Dairy and poultry production
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