दुग्ध बिकास संस्थान
केन्द्रीय कार्यालय, लैनचौर

एक्सटेन्सन अफिसर तह ७ प्राबिधिक सेवा, डे.ए.अ. समूह पदको खुला प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

पाठ्यक्रमको रुपरेखा :– यस पाठ्यक्रमको आधारमा निम्नानुसार दुई चरणमा परीक्षा लिइने छ :

प्रथम चरण :– लिखित परीक्षा पूर्णाङ्क :– २००

द्वितीय चरण :– अन्तर्वार्ता पूर्णाङ्क :– ३०

प्रथम चरण – लिखित परीक्षा योजना (Examination Scheme)

पत्र	विषय	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्या x अङ्कभार	समय
प्रथम पत्र	कृषि तथा पशु विज्ञान	१००	४०	वस्तुगत बहुउत्तर (Multiple Choice)	५० x २ = १००	१ घण्टा
द्वितीय पत्र	क. दुग्ध प्रबिधी तथा प्रसार ख. संस्थान सम्बन्धि	७० ३०	४०	विषयगत (Subjective)	७ x १० = ७० २ x १५ = ३०	३ घण्टा

द्वितीय चरण

विषय	पूर्णाङ्क	परीक्षा प्रणाली
व्यक्तिगत अन्तर्वार्ता	३०	मौखिक

१. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।

२. प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।

३. प्रथम तथा द्वितीय पत्रका एकाईहरुको प्रश्नसंख्या निम्नानुसार हुनेछ :

४. प्रथम पत्रमा वस्तुगत बहुउत्तर (Multiple Choice) प्रश्नहरुको उत्तर सही दिएमा प्रत्येक सही उत्तर बापत २ (दुई) अङ्क प्रदान गरिनेछ भने गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अर्थात् ०.४ अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।

५. द्वितीय पत्रको विषयगत प्रश्नका लागि तोकिएका १० अङ्कका ७ प्रश्नहरु र १५ अङ्कका २ वटा प्रश्नहरुको सोधिने छ ।

६. द्वितीय पत्रको पाठ्यक्रमलाई ४ वटा खण्ड/एकाईमा विभाजन गरिएको छ । ४ वटा खण्ड/एकाईको लागि एउटै उत्तरपुस्तिका दिईनेछ ।

Collected By www.pbsuchana.com

७. यस पाठ्यक्रममा जेसुकै लेखिएको भएता पनि पाठ्यक्रममा परेका ऐन, नियमहरु परीक्षाको मिति भन्दा ३ (तीन) महिना अगाडि संशोधन भएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई कायम रहेकालाई यस पाठ्यक्रममा रहेको सम्झनु पर्दछ ।

८. प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरुलाई मात्र द्वितीय चरणको अन्तर्वार्तामा सम्मिलित गराइनेछ ।

९. पाठ्यक्रम लागू मिति :– २०७२/१०/२५ देखि

Collected By www.jobsuchana.com

प्रथम पत्र :- कृषि तथा पशु विज्ञान (५० x २ = १००)

1. LIVESTOCK DEVELOPMENT related PLANS, POLICIES AND ACTS

1.1 Livestock sector in Agricultural Perspective Plan (APP), Agriculture Development Strategy and current Three Year Interim Plan (TYIP)

1.2 Animal health and livestock services Act, 2055 and Regulation, 2056

1.3 Animal slaughterhouse and Meat Inspection Act, 2055 and Regulation, 2057

1.4 National Dairy Development Board Act, 1992

1.5 Livestock development approaches

2. ANIMAL NUTRITION

2.1 Functions of water, proteins, fats, carbohydrates, minerals and vitamins in animal body and their requirements for different species of livestock - their sources and deficiency syndromes

2.2 Intake, digestion, utilization and metabolism of various nutrients by ruminants and non-ruminants

2.3 Factors affecting nutritive value of feed stuffs

2.4 Feed additives – antioxidants, antibiotics, probiotics, antifungal, coccidiostat and growth promoters

2.5 Utilization of crop and industrial by-products in livestock

2.6 Feeds and feeding standards for each livestock species at different stages

3. PASTURE AND FODDER

3.1 Morphology of pasture and fodder crops

3.2 Classification of different types of pasture and fodder species

3.3 Agronomical management of tropical, sub-tropical and temperate species of grasses and legumes such as stylo, berseem, oat, rye grass, soybean, sorghum, Para grass, broom grass, Centro, Napier, desmodium, vetch, clover, teosente, molasses, cowpea, velvet bean and kudzu etc.

3.4 Nursery management of fodder tree species

3.5 Agronomical management of fodder trees such as Badahar, Kutmiro, Tanki, Leucaena, Khannyo, Kimbu, Kabro, Pakhuri, Dabdabe, Bakaino etc.

3.6 Different methods of forage conservation- hay, silage and their nutritive values

3.7 Agro-forestry / Silvi-pasture in community and leasehold forestry, fruit orchard

3.8 Principles and practices of forage seed production

3.9 Seed (foundation and certified) production of different pasture and fodder species including fodder trees in different eco-zones

3.10 Quality management of seed and methods of estimation

Collected By www.jobsnepal.com

4. ANIMAL BREEDING AND REPRODUCTION

4.1 The cell and cell division

4.2 Segregation and recombination of genes

4.3 Expression of genes – additive and non-additive gene action, causes of variation in gene expression

4.4 Heritability and repeatability estimates

4.5 Breeding values, measure of genetic and phenotypic relationships

4.6 Principles of selection: Selection differential, selection response, selection intensity, generation interval, phenotypic, genetic and environmental correlation and genetic progress

4.7 Indigenous and exotic breeds of livestock and poultry and their characteristics

4.8 Types of breeding: inbreeding, line breeding, outcrossing, outbreeding, crossbreeding

4.9 Anatomy of male and female reproductive organs of different species of livestock

4.10 Hormones of reproduction and their functions – estrous cycle, ovulation, fertilization, gestation and parturition; induction and synchronization of ovulation

4.11 Reproductive disorders and their corrective measures

5. ANIMAL HUSBANDRY

5.1 Housing and space requirement of different livestock

5.2 Different types of record maintenance of farm animals

5.3 Management of different stages of animal (young, pregnant, lactating, dry etc)

5.4 Management of livestock breeding stocks

5.5 Hygienic milk production

6. ANIMAL HEALTH

6.1 Sanitation and prophylactic measures

6.2 External and internal parasites - their control measures

6.3 Symptoms, prevention and control measures of common livestock diseases – Calf scour, mastitis, H.S., FMD, Calf pneumonia, bloat, PPR, black quarter, enterotoxaemia, foot rot, pox

6.4 Zoonotic diseases and their importance to public health

7. DAIRY CHEMISTRY

7.1 Milk secretion phenomenon

7.2 Constituents and gross composition of milk of different species and breeds of milch animals

7.3 Density and specific gravity of milk, effect of various processing variables on the density and specific gravity of milk.

7.3 Factor affecting the composition of milk and milk quality

Collected By www.jobvachana.com

7.4 Nutritive value of milk with respect to different milk constituents

7.5 Physical and chemical properties of milk

7.6 Pasteurization and homogenization of milk

7.7 Legal standard of different dairy product in Nepal

8. DAIRY MICROBIOLOGY

8.1 Hygienic milk production system; microbial quality of milk produced under organized v/s unorganized milk sector in Nepal

8.2 Microbial and non microbial contaminants, their sources and entry points in milk during various stages of production;

8.3 Good Hygiene Practices (GHP) during milk production operations Microorganisms associated with raw milk; morphological and biochemical characteristics of important groups and their classification;

8.4 Significance of different groups of bacteria i.e. psychrotrophs, mesophiles, thermodurics, and thermophiles in milk.

8.5 Impact of various stages like milking, chilling, storage and transportation on microbial quality of milk with special reference to psychrotrophic organisms;

8.6 Direct and indirect rapid technique for assessment of microbial quality of milk.

8.7 Role of microorganisms in spoilage of milk; souring, curdling, bitty cream, proteolysis, lipolysis;

वस्तुगत बहुउत्तर नमूना प्रश्नहरु **(Sample questions)**

1. At the end of APP period, the contribution of livestock sector in AGDP will be
(A) 30% (B) 35% (C) 40% (D) 45% **Correct Answer:- (D)**

2. Which of the following is perennial forage legume?
(A) Berseem (B) Vetch (C) Stylo (D) Cow pea **Correct Answer:- (C)**

3. Heritability estimate of milk is generally
(A) 0.05 (B) 0.15 (C) 0.25 (D) 0.35 **Correct Answer:- (C)**

4. Space requirement of poultry brown layer in deep litter system is
(A) 1-1.50 sq.ft. (B) 1.51-2.0 sq.ft (C) 2.1-2.50 sq.ft (D) 2.51-3.0 sq.ft. **Correct Answer:- (C)**

5. Coccidiosis is caused by
(A)Bacteria (B) Virus (C) Protozoa (D) Fungi **Correct Answer:- (C)** PSC

Collected By www.jobsuchana.com

द्वितीय पत्र : दुग्ध प्रबिधी तथा प्रसार सम्बन्धी विषय पूर्णाङ्कः १००

Section A (७ x १० = ७०)

1. ANIMAL NUTRITION

1.1 Conventional and non-conventional feeds

1.2 Nutritional contents of different species of pasture, fodder, fodder trees including indigenous species, agricultural and industrial by-products

1.3 Anti-nutritional factors in feeds and fodders

1.4 Different methods of nutritional analysis of livestock feeds and fodder

1.5 Computation and evaluation of ration for different livestock species

1.6 Utilization of wastes in animal feeding

2. PASTURE AND FODDER

2.1 Soil fertility evaluation- soil testing, plant analysis, deficiency symptoms and biological test in relation to pasture and fodder species

2.2 Soil organic matter and organic manure in relation to pasture and fodder species

2.3 Agronomical management of tropical, sub-tropical and temperate species of grasses and legumes such as stylo, lucern, berseem, oat, rye grass, soybean, sorghum, paragrass, broomgrass, centro, napier, desmodium, vetch, clover, teosente, molasses, cowpea, valvet bean and kudzu etc.

2.4 Pasture and rangeland management practices in different eco-zones

2.5 Utilization of crop residues – improvement of nutritive values

2.6 Agro-forestry / Silvi-pasture in community and leasehold forestry, fruit orchard

3. ANIMAL BREEDING AND REPRODUCTION

3.1 Concept of genetic resistance to diseases and parasites

3.2 Methods of selection- independent culling, tandem, and selection index

3.3 Collection, processing, evaluation and storage of warm and frozen semen

3.4 Artificial insemination technique, heat synchronization and pregnancy diagnosis

3.5 Embryo-transfer technology in livestock development

3.6 Formulation of breeding plan for various livestock species

4. DAIRY

4.1 Standardization of milk, cream and other milk products

4.2 Methods of preparation, types, nutritive value of yoghurt, butter, ghee, cheese, paneer, khuwa, ice cream and chhurpi

4.3 Milk borne diseases in brief

4.4 Packaging and storing of milk and milk products

4.5 Costing of different dairy products

4.6 Schedule for maintenance of mini dairy plants

4.7 Development and project planning of mini dairy plant

Collected By www.jobsuchana.com

5. QUALITY AND SAFETY MONITORING IN DAIRY INDUSTRY

5.1 Current awareness on quality and safety of dairy foods; consumer awareness and their demands for safe foods;

5.2 International standards - quality (ISO 9001:2000) and food safety (HACCP) system and their application during milk production and processing.

5.3 National and international food regulatory standards in controlling the quality and safety of dairy foods.

5.4 Rapid assessment of dairy food for microbial and non- microbial contaminants;

5.5 Enumeration Principles in detection of predominant spoilage organisms and pathogens like indicator organisms, E.coli, salmonella, shigella, staph aureus, Bacillus cereus and non microbial contaminants like antibiotic residues, aflatoxin, pesticides other inhibitors etc from.

5.6 Microbial quality of water and environmental hygiene in dairy plant; chlorination of dairy water supply, quality of air. Personnel hygiene, treatment and disposal of waste water and effluents;

6. LIVESTOCK MANAGEMENT

6.1 Functions and tools of farm management

6.2 Relationship between livestock production and marketing

6.3 Types of markets for livestock and livestock products

6.4 Factors affecting the livestock markets

6.6 Livestock market promotion and sustainable management

6.7 Economics of livestock (cattle, buffalo, goat, sheep, pig, and rabbit) farming

7. EXTENSION EDUCATION

7.1 History, philosophy, principles, approaches and objectives of extension education

7.2 Present status of extension and rural Development programmes in Nepal

7.3. Teaching/learning process, Extension Teaching Methods, classification and selection of teaching methods.

7.4 Identification of rural leaders, their characteristics, roles and functions in rural development, training of rural leaders. Definition of groups, natural types, principles of working with groups and their mobilization.

7.5 Conceptual orientation about different terms, like PRA, RRA, IVLP/TAR, ATMA, ATIC, PTD etc. Group Discussion Technique, Developing Communication and Overall Skills, Brain storming Technique for developing the Decision making Process, Interview technique (s), Identification of problems of village farmers through interview method.

7.6 Leadership skills and qualities of good leader

7.7 Conflict management and negotiation skills

Collected By www.bsbharia.com

Section B (२ x १५ = ३०)

Rules Regulations

1. Corporation Act 2021
2. Personnel and Financial Regulation of DDC
3. Consumer Protection Act of Nepal
4. Labour Act of Nepal
5. History of constitutional development in Nepal and present constitution.

विषयगत नमूना प्रश्नहरु **(Sample questions)**

1. Give stepwise pasteurization procedure for milk and cream

2. Explain the importance of crop residues in animal feeding and how would you improve the nutritive value of rice straw?

3. Write short notes on a) Heat synchronization b) Progeny testing PSC

Collected By www.jobsuchana.com