

प्रदेश लोक सेवा आयोग, बागमती प्रदेश

प्रदेश र स्थानीय तह तर्फ आर्थिक योजना तथा तथ्याङ्क, कृषि (हर्टिकल्चर समूह), वन, इन्जिनियरिङ्ग, शिक्षा र विविध सेवाका सबै समूह/उपसमूहका नवौं तहको खुला, अन्तर तह प्रतियोगिता र आन्तरिक अन्तर सेवा प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

यस पाठ्यक्रमलाई दुई भागमा विभाजन गरिएको छ :

भाग १- लिखित परीक्षा

भाग २- अन्तर्वार्ता

पूर्णाङ्क: २००

पूर्णाङ्क: ३०

परीक्षा योजना (Examination Scheme)

पत्र	विषय	खण्ड	परीक्षा प्रणाली	प्रश्न सङ्ख्या	अङ्क भार	समय	पूर्णाङ्क	उत्तीर्णाङ्क
प्रथम	प्रशासन र व्यवस्थापन र सेवा सम्बन्धी सामान्य विषय	क) प्रशासन र व्यवस्थापन	छोटो उत्तर	१०	१० प्रश्न × ५ अङ्क = ५० अङ्क	१.५ घण्टा	५०	४०
		ख) सेवा सम्बन्धी सामान्य विषय	लामो उत्तर	५	५ प्रश्न × १० अङ्क = ५० अङ्क	१.५ घण्टा	५०	
द्वितीय	सेवा सम्बन्धी प्राविधिक विषय		विश्लेषणात्मक समीक्षा	४	४ प्रश्न × १५ अङ्क = ६० अङ्क	३ घण्टा	१००	४०
			विश्लेषणात्मक र समाधानमूलक उत्तर	२	२ प्रश्न × २० अङ्क = ४० अङ्क			

द्रष्टव्य:

- यस पाठ्यक्रम अनुसार दुई पत्रको लिखित परीक्षा लिइनेछ ।
- माथि उल्लिखित सबै सेवा अन्तर्गतका समूह/उपसमूहहरूको पाठ्यक्रमको प्रथमपत्र खण्ड (क) को विषयवस्तु एउटै हुनेछ, तर प्रथमपत्र खण्ड (ख) र द्वितीयपत्र सेवा, समूह सम्बन्धी पाठ्यक्रम समूह अनुरूप फरक फरक हुनेछ ।
- प्रथमपत्र खण्ड (क) का लिखित परीक्षा सेवागत रूपमा अर्थात एउटा सेवा अन्तर्गतका समूह/उपसमूहका लागि संयुक्त रूपमा एउटै प्रश्नपत्रबाट एकैदिन वा छुट्टाछुट्टै प्रश्नपत्रबाट छुट्टाछुट्टै दिन पनि हुन सक्न छ भन प्रथमपत्र खण्ड (ख) का परीक्षा समूह/उपसमूह अनुसार एकैदिन वा अलग अलग दिन छुट्टाछुट्टै प्रश्नपत्रबाट हुनेछ । यसैगरी द्वितीय पत्रका परीक्षा पनि समूह/उपसमूह अनुसार एकैदिन वा अलग अलग दिन छुट्टाछुट्टै प्रश्नपत्रबाट हुनेछ ।
- प्रथमपत्र खण्ड (क) का लागि एउटा मात्र उत्तरपुस्तिका हुनेछ भने प्रथमपत्र खण्ड (ख) र द्वितीय पत्रको प्रत्येक प्रश्नका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन् ।
- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुन सक्नेछ ।
- यथासम्भव प्रश्नहरू नेपाल र बागमती प्रदेशको सन्दर्भमा सोधिने छन् ।
- समस्या समाधानको उत्तर आवश्यकता अनुसार निम्नानुसार चार भागमा विभाजन गरी प्रस्तुत गर्नुपर्नेछ ।
क) पहिलो भागमा समस्याको पहिचान ।
ख) दोस्रो भागमा समस्या समाधानको लागि मौजुदा सरकारी नीति र कार्यक्रम ।
ग) तेस्रो भागमा समस्या समाधानको लागि सुझाव ।
घ) चौथो भागमा सुझाव कार्यान्वयन, अनुगमन र मूल्याङ्कन गर्ने ठोस तरिका ।
- यस पाठ्यक्रममा जेसुकै लेखिएका भएता पनि पाठ्यक्रममा परेका ऐन, नियमहरू परीक्षाका मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
- प्रथम चरणका लिखित परीक्षाबाट छनौट भएका उम्मेदवारहरूलाई मात्र द्वितीय चरणका अन्तर्वार्तामा सम्मिलित गराइनेछ ।
- पाठ्यक्रम लागु मिति:

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प्रतियोगिता र आन्तरिक अन्तर सेवा प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

प्रथमपत्र: खण्ड (क) प्रशासन र व्यवस्थापन

अङ्क — ५०

१. राज्य र सरकार
 - १.१ व्यवस्थापिका, कार्यपालिका र न्यायपालिका बीचको अन्तरसम्बन्ध
 - १.२ सार्वजनिक नीति तर्जुमा, कार्यान्वयन, अनुगमन र मूल्यांकन
 - १.३ विद्यमान नेपालको संविधान
२. सार्वजनिक प्रशासन
 - २.१ सार्वजनिक प्रशासनको अवधारणा
 - २.२ कर्मचारी प्रशासनका आधारभूत पक्षहरू
 - २.३ आर्थिक प्रशासन- बजेट तर्जुमा, कार्यान्वयन, अनुगमन र मूल्यांकन
३. व्यवस्थापन
 - ३.१ व्यवस्थापनको अवधारणा
 - ३.२ व्यवस्थापनमा नेतृत्व, उत्प्रेरणा, नियन्त्रण र समन्वयको महत्व
 - ३.३ व्यवस्थापन सूचना प्रणाली
४. विकासका आयामहरू
 - ४.१ विकास प्रशासनका अवधारणा
 - ४.२ विकासमा जनसहभागिता
 - ४.३ आवधिक योजना/बागमती प्रदेशको आवधिक योजना
 - ४.४ दिगो विकास
 - ४.५ विकेन्द्रीकरण
 - ४.६ गरीबी निवारण
 - ४.७ सुशासन
 - ४.८ विकासमा गैरसरकारी संस्थाको भूमिका
 - ४.९ जनसंख्या र बसोबास
५. लोकतन्त्र र मानव अधिकार
 - ५.१ लोकतन्त्र र समावेशीकरण
 - ५.२ कानुनी राज्य
 - ५.३ मानव अधिकार
 - ५.४ लैंगिक सवाल (Gender Issues)
 - ५.५ आरक्षण र सकारात्मक विभेद
 - ५.६ प्रतिनिधित्वको सिद्धान्त र समानुपातिक प्रतिनिधित्व
६. नेपाली समाज र यसको बनोट
 - ६.१ नेपालका विविध जात/जाति/वर्ग/समुदायहरूको सामाजिक, आर्थिक, सांस्कृतिक र धार्मिक अवस्था र रहनसहन
 - ६.२ आदिवासी, जनजाती, मधेसी, दलित, अपाङ्ग र महिलाहरूको वर्तमान अवस्था, उत्थानका प्रयासहरू, समस्या, समाधान र सम्भावनाहरू

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1. Horticulture policy and strategy

- 1.1 History, objective, role, impact, importance, scope and activities of horticultural research and development plan and programs in Nepal
- 1.2 Review of limitations and achievements of Horticulture Development in Nepal
- 1.3 National and international linkages for horticultural research and development
- 1.4 Prioritization of horticultural crops for research and development in Nepalese context
- 1.5 Present situation and distribution of major Fruits, Vegetables, Spices, plantation crops and Ornamental plants in Nepal
- 1.6 Horticulture Extension and Training Program
- 1.7 Major constraints to horticultural crop production in Nepal and possible remedies
- 1.8 Prospects of horticultural crop production in Nepal
- 1.9 Horticultural Project Planning and Management
- 1.10 Concept of pocket-package programme, satellite farming and commercial farming
- 1.11 Role of horticulture in poverty alleviation, food security, environment protection and income generation in Nepal

2. Acts and Policies (Relevant Sections Only)

- 2.1 Nepal Agriculture Perspective Plan (APP), 2050
- 2.2 Current Periodical Plan with special reference to horticulture
- 2.3 National Horticulture Policy, 2061
- 2.4 Horticulture Master Plan, 2047
- 2.5 Agro-diversity Policy, 2063
- 2.6 Agri-Business Promotion Policy, 2063
- 2.7 National Coffee Policy
- 2.8 National Tea Policy
- 2.9 National Fertilizer Policy, 2058
- 2.10 Food Act, 2023
- 2.11 Seed Act, 2045
- 2.12 NARC Act, 2048
- 2.13 Civil Service Act, 2049,
- 2.14 Civil Service Regulation, 2050
- 2.15 Nepal Agriculture Services Regulations, 2050
- 2.16 Financial Regulation, 2077
- 2.17 Plant Protection Act, 2064

3. General Horticulture

- 3.1 Existing horticultural crop production zones and potential areas of the country
- 3.2 Present horticultural crops production, supply, demand, export and import situation in Nepal
- 3.3 Scope and limitations of floriculture development in Nepal
- 3.4 Bio-diversity and its protection
- 3.5 Farmer's cooperative and women's participation in horticulture
- 3.6 Horticultural farm management system in Nepal
- 3.7 Existing horticultural farms/stations and their use in Nepal

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4. Special topics with reference to horticulture

- 4.1 GATT
- 4.2 SAFTA
- 4.3 TRIPP
- 4.4 Intellectual Property Right (IPR)
- 4.5 Patent Right
- 4.6 World Trade Organization (WTO) - general
- 4.7 Role of private sector in horticulture development
- 4.8 UPOV
- 4.9 Sue generics

5. Scope and importance of high value horticultural crops and variety releasing system

- 5.1 Elements of horticultural commodities
- 5.2 Value chain approach
- 5.3 Crop varietal selection processes – a) conventional and b) participatory
- 5.4. Varietal releasing system in Nepal

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नमूना प्रश्नहरू (Model Questions)

प्रथम पत्र - खण्ड (ख) सेवा समूह सम्बन्धी सामान्य विषय

अङ्क - ५०

1. Current production and productivity of apple is inadequate and of poor quality and has to import to meet the demand of Nepalese people. What policies are needed to reform so that import is gradually reduced? 10
2. What is mean by commercial farming and what are the elements of it for successful commercial farming. 10
3. Farmers managed farms are better than those of government farms. Identify the constraints and provide a suitable and sustainable model of horticulture farm management. 10
4. List five best high value horticulture commodities for various horticulture zones of the country along with suitable and recommended cultivars. 10
5. Horticultural crops are income generating commodities suitable for poverty reduction and improving food security of small farmers. Illustrate your answer with five examples. 10

द्वितीय पत्र: प्राविधिक बिषय

अङ्क:- १००

1. Fruit orchard establishment and management

- 1.1 Climatic requirements
- 1.2 Site selection, land preparation, lay-out, planting methods
- 1.3 Water management
- 1.4 Training and pruning
- 1.5 Top working
- 1.6 Weed management
- 1.7 Soils, manure and fertilizer management
- 1.8 Meadow orchard system
- 1.9 High density planting

2. Production packages of major fruits, vegetables, spices, plantation crops and ornamentals relating to classification, location, altitude, aspect, soil, climate, seed, open pollinated and hybrid cultivar, sowing/transplanting time, grafting, spacing, irrigation, drainage, manure, fertilizer micro-nutrients, mulching, major varieties, insect pests, diseases, harvesting time, mix-cropping on production and productivity.

- 2.1. **Major fruit crops** (mandarin, sweet orange, lime, lemon, aonla, apple, pear, walnut, mango, litchi, banana, pine apple, grape, papaya, strawberry, olive, almond, coconut, and arecanut),
- 2.2. **Major vegetables** (potato, sweet potato, tomato, brinjal, chilly pepper, sweet pepper, cauliflower, cabbage, broccoli, pea, radish. carrot, onion, garlic, cucumber, broad-leaf mustard, lettuce and guards)
- 2.3. **Major spices** (ginger, large cardamom, turmeric and cumin)
- 2.4. **Major ornamental plants** (orchid, rose, marigold, petunia, bougainvillea, dahlia, chrysanthemum and gladiolus)
- 2.5. **Major plantation crops** (tea and coffee)

3. Crop physiology

- 3.1 Photosynthesis and respiration
- 3.2 Transpiration and translocation
- 3.3 Photoperiodism
- 3.4 Stress physiology
- 3.5 Plant growth regulators and retardant
- 3.6 Vernalization
- 3.7 Growth and development
- 3.8 Diffusion and osmosis
- 3.9 Flowering and fruiting phenomenon

4. Special topics in horticulture

- 4.1 Self unfruitfulness
- 4.2 Fruit drop
- 4.3 Citrus decline
- 4.4 Alternate bearing
- 4.5 Heterosis and development of hybrid variety
- 4.6 Genetic erosion and transformation
- 4.7 Parthenogenesis
- 4.8 High density plantation
- 4.9 Tree structure and canopy

- 4.10 Landscaping
 - 4.11 Urban and peri-urban horticulture
 - 4.12 Role and importance of medicinal plants in Nepal
 - 4.13 Controlled cultivation
 - 4.14 Integrated crop management (ICM) – IPM, IDM, IPNS
 - 4.15 Organic farming
 - 4.16 Hydroponics/aeroponics
- 5. Off-season Production**
- 6.1 Present status, constraints and potentiality
 - 6.2 Utilization of diverse agro-climatic zones for off-season production
 - 6.3 Suitable crops, varieties and time for off-season production.
 - 6.4 Protected cultivation: Green house, lath house, plastic culture, hot beds and cold frame.
 - 6.5 Improved cultural and management technologies for off-season production.
 - 6.6 Cost and benefits of off-season production.
 - 6.7 Marketing strategies for off-season production.
- 6. Seed and planting materials production**
- 6.1 Nursery management of fruits, vegetables, spices and ornamental plants
 - 6.2 Plant propagation methods
 - 6.3 Root stocks and their use in fruit cultivation with their compatibility & effect
 - 6.4 Nursery media
 - 6.5 Scion use, compatibility and effects on rootstock
 - 6.6 Rootstock and its compatibility
 - 6.7 Influence of location, aspects, altitude, temperature, light, day-length, spacing, irrigation, manure, fertilizers, micro nutrients, hormone, direct seedling, stickling-transplanting, seedling and planting time on seed yield and seed/sapling quality.
 - 6.8 Nucleus, breeder, foundation and improved seed production.
 - 6.9 Pollination, fertilization, seed development, dormancy and germination.
 - 6.10 Variety maintenance methods.
 - 6.11 Seed testing, certification and field inspection.
 - 6.12 Seed production methods for open pollinated and hybrid cultivars.
 - 6.13 Effects of harvesting time, threshing, drying, grading, packing, packaging and storage of horticultural commodities.
 - 6.14 Major problems and weaknesses in seed/saplings production.
- 7. Post-harvest technology**
- 7.1 Post harvest technology; respiration and transpiration.
 - 7.2 Maturity indices
 - 7.3 Method of harvesting, cleaning, grading, and packaging.
 - 7.4 Post harvest handling and transportation.
 - 7.5 Harvesting for local and distant markets.
 - 7.6 Markets and marketing
 - 7.7 Storage (cellar store, rustic store, controlled atmospheric storage, diffused light storage, zero energy and cold storage)
 - 7.8 Causes of deterioration of horticultural products.
 - 7.9 Quality standardizations.
 - 7.10 Processing and preservation.

8. Indigenous Technology

- 8.1 Local and wild edible fruits and vegetable species, cultivars and their usefulness.
- 8.2 Indigenous practices of vegetable cultivation.
- 8.3 Indigenous methods of disease and pest control and preventive measure.
- 8.4 Indigenous methods of soil fertility improvement and management.
- 8.5 Indigenous methods and management of water conservation and utilization.

9. Plant genetics and crop improvement

- 9.1 Tissue culture technology and bio-technology
- 9.2 Superior hybrid and superior open pollinated cultivars
- 9.3 Use of transgenic plants in horticulture
- 9.4 GMOs
- 9.5 Genes and their action
- 11.2 Genotypes and phenotype.
- 9.6 Breeding methods: self-pollinated species, cross-pollinated species,
- 9.7 Concept of heterosis and development of hybrid variety.
- 9.8 Mutation breeding.
- 9.9 Genetic erosion and transformation.
- 9.10 Temperature stress, moisture stress and nutrient stress

10. Statistics

- 10.1.1 Basic statistics: Standard deviation, standard error, normal distribution, sampling theory, test of hypothesis, and confidence interval, T-test, F-test and Chi-square tests
- 10.2 Research problem identification and project prioritization
- 10.3 Research and development project proposal preparation
- 10.4 Designs of experiment (single factor and factorial)
- 10.5 General methodologies to carry out RRA, PRA, Action research, Adoptive research, Exploratory, Academic research, Multi-disciplinary research, Multi-location research, Outreach research, Farmers' participatory research, Socioeconomic and market research, Collaborative research and Multi-partnership research.
- 10.6 Sampling methods, sampling size, data analysis, technical report writing and presentation
- 10.7 Estimate of experimental error and Control of error
- 10.8 Comparison: Pair comparison by Least Significant Different (LSD) and Duncan's Multiple Range Test (DMRT) group comparison - between - group comparison. Within group comparison, trends comparison and factorial comparison.
- 10.9 Regression and correlation: (Simple linear regression and correlation, multiple-linear regression and correction, simple non-linear regression and correlation, multiple nonlinear regression)

नमूना प्रश्नहरू (Model Questions)

विश्लेषणात्मक समिक्षा (Analytical Review)

४ पत्र × १५ अंक = ६० अंक

1. High density planting, training and pruning of apple tree are the important operations to be carried out for high productive trees. Discuss relationship between these activities and also the benefits of individual operation on productivity of trees. 15
2. Shape, size, shining colour and firmness are the important parameters for assessing the fruit quality. What latest technologies do you advice to farmer to obtain these quality? 15
3. Stress in plants are caused by high moisture or drought or high wind or hail stone, etc. are the common problem of the plants. These conditions resulted into poor production, poor productivity and poor quality of produces. What organic inputs will you suggest to farmer to apply to overcome these problems? 15
4. How the F₁ hybrid cultivars are developed and also provided the methods of hybrid seed production in tomato. 15

विश्लेषणात्मक र समाधान मुलक उत्तर (Analytical and problem solving)

२ पत्र × २० अंक = ४० अंक

5. Chhirke phurke and rhizome rot are the major constraints faced by cardamom farmers. Critically analyse the cause of the problems and provide measures to solve the problems so that productivity of cardamom and cash income of the farmers are enhanced. 20
6. Low productivity of off-season vegetable is due to mainly diseases and pests. Investigate the causes of the problems and suggest practical and affordable preventive measures to protect the crops from these problems. 20