

प्रदेश लोक सेवा आयोग, प्रदेश नं. २
 वन सेवाका जनरल फरेस्ट्री, फरेस्ट रिसर्च र स्वायल एण्ड वाटर कन्जर्मेशन समूहका
 अधिकृत सातौं तहका पदहरूको खुला तथा अन्तर सेवा प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

यस पाठ्यक्रम योजनालाई दुई चरणमा विभाजन गरिएको छ :

प्रथम चरण :-	लिखित परीक्षा (Written Examination)	पूर्णाङ्क :- २००
द्वितीय चरण :-	(क) सामूहिक परीक्षण (Group Test)	पूर्णाङ्क :- १०
	(ख) अन्तर्वार्ता (Interview)	पूर्णाङ्क :- ३०

परीक्षा योजना (Examination Scheme)

प्रथम चरण : लिखित परीक्षा (Written Examination)

पूर्णाङ्क :- २००

पत्र	विषय	खण्ड	पूर्णाङ्क	उर्तीर्णाङ्क	परीक्षा प्रणाली	प्रश्नसंख्या × अङ्क		समय
						प्रश्नसंख्या × अङ्क	समय	
प्रथम	General Subject	Part I: General Awareness & General Ability Test	१००	४०	वस्तुगत (Objective)	बहुवैकल्पिक प्रश्न (MCQs)	५० प्रश्न × १ अङ्क	१घण्टा ३० मिनेट
		Part II: General Technical Subject					५० प्रश्न × १ अङ्क	
द्वितीय	Technical Subject	१००	४०	विषयगत (Subjective)	छोटो उत्तर लामा उत्तर	४ प्रश्न × ५ अङ्क ८ प्रश्न × १० अङ्क	३ घण्टा	

द्वितीय चरण : सामूहिक परीक्षण (Group Test) र अन्तर्वार्ता (Interview)

पूर्णाङ्क :- ४०

पत्र / विषय	पूर्णाङ्क	उर्तीर्णाङ्क	परीक्षा प्रणाली	समय
सामूहिक परीक्षण (Group Test)	१०		सामूहिक छलफल (Group Discussion)	३० मिनेट
अन्तर्वार्ता (Interview)	३०		बोर्ड अन्तर्वार्ता (Board Interview)	-

द्रष्टव्य :

- लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुवै हुनेछ ।
- प्रथमपत्र र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
- वस्तुगत बहुवैकल्पिक (Multiple Choice) प्रश्नहरूको गलत उत्तर दिएमा प्रत्येक गलत उत्तर बापत २० प्रतिशत अङ्क कट्टा गरिनेछ । तर उत्तर नदिएमा त्यस बापत अङ्क दिइने छैन र अङ्क कट्टा पनि गरिने छैन ।
- बहुवैकल्पिक प्रश्नहरू हुने परीक्षामा कुनै प्रकारको क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
- विषयगत प्रश्नहरूको हकमा तोकिएको अंकका एउटा लामो प्रश्न वा एउटा प्रश्नको दुई वा दुई भन्दा बढी भाग (Two or more parts of a single question) वा एउटा प्रश्न अन्तर्गत दुई वा बढी टिप्पणीहरू (Short notes) सोधन सकिने छ ।
- द्वितीय पत्रमा (विषयगत प्रश्न हुनेका हकमा) प्रत्येक खण्डका लागि छुट्टाछुट्टै उत्तरपुस्तिकाहरू हुनेछन । परीक्षार्थीले प्रत्येक खण्डको प्रश्नहरूको उत्तर सोहीखण्डको उत्तरपुस्तिकामा लेख्नुपर्नेछ ।
- यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयवस्तुमा जेसुकै लेखिएको भए तापनि पाठ्यक्रममा परेका कानून, ऐन, नियम तथा नीतिहरू परीक्षाका मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भइ हटाईएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्भन्नु पर्दछ ।
- प्रथमचरणको परीक्षाबाट छनौट भएको उम्मेदवारहरूलाई मात्र द्वितीयचरणको परीक्षामा सम्मिलित गराइनेछ ।
- पाठ्यक्रम लागू मिति : २०७८।०३।२७ गते देखि ।

प्रथम पत्र (Paper I): General Subject

Part (I) : - General Awareness & General Ability Test (50 Marks)

1. **General Awareness and Contemporary Issues** **(25 × 1 Mark = 25 Marks)**
 - 1.1 Physical, socio-cultural and economic geography and demography of Nepal
 - 1.2 Major natural resources of Nepal
 - 1.3 Geographical diversity, climatic conditions, and livelihood & lifestyle of people
 - 1.4 Notable events and personalities, social, cultural and economic conditions in modern history of Nepal
 - 1.5 Current periodical plan of Nepal
 - 1.6 Information on sustainable development, environment, pollution, climate change, biodiversity, science and technology
 - 1.7 Nepal's international affairs and general information on the UNO, SAARC & BIMSTEC
 - 1.8 The Constitution of Nepal (From Part 1 to 5 and Schedules)
 - 1.9 Governance system and Government (Federal, Provincial and Local)
 - 1.10 Provisions of civil service act and regulation relating to constitution of civil service, organisational structure, posts of service, fulfillment of vacancy and code of conduct
 - 1.11 Functional scope of public services
 - 1.12 Public Service Charter
 - 1.13 Concept, objective and importance of public policy
 - 1.14 Fundamentals of management : planning, organizing, directing, controlling, coordinating, decision making, motivation and leadership
 - 1.15 Government planning, budgeting and accounting system
 - 1.16 Major events and current affairs of national and international importance
 - 1.17 Province no2, Province Civil Service Act, 2077
 - 1.18 Federal, Province and local level co-ordination and co-operation
 - 1.19 Conflict management
 - 1.20 Disaster management

2. **General Ability Test** **(25 × 1 Mark = 25 Marks)**
 - 2.1 **Verbal Ability Test** (8×1 Mark = 8 Marks)
Jumble words, Series, Analogy, Classification, Coding-Decoding, Matrix, Ranking Order Test, Direction and Distance Sense Test, Common Sense Test, Logical Reasoning, Assertion and Reason, Statement and Conclusions

 - 2.2 **Numerical Ability Test** (9×1 Mark = 9Marks)
Series, Analogy, Classification, Coding, Arithmetical reasoning/operation, Percentage, Ratio, Average, Loss & Profit, Time & Work, Data interpretation & Data verification

2.3 Non-verbal/Abstract Ability Test (8×1 Mark = 8 Marks)

Figure Series, Figure Analogy, Figure Classification, Figure Matrix, Pattern Completion/Finding, Analytical Reasoning Test, Figure Formation and Analysis, Rule Detection, Water images, Mirror images, Cubes and Dice & Venn-diagram

Part (B) : - General Technical Subject (50 Marks)

1. Silviculture <ul style="list-style-type: none"> 1.1 Common silvicultural terms 1.2 Forest types of Nepal 1.3 Concept and principle of forest ecosystem, normal forest and locality factors 1.4 Silvicultural practices adopted for the management of different categories of forests (e.g. community forests, collaborative forests, block forest, leasehold forests, religious forests, plantation forests, natural forests) 1.5 Seed collection, handling, storage and certification 1.6 Principles and practices of natural and artificial regeneration, various techniques of plant propagation, plantation establishment at different sites, types of tending operation and forest rotations 1.7 Principles and methods of tree improvement 1.8 Silviculture of commercial tree species of Nepal 	(5 Marks)
2. Forest Management <ul style="list-style-type: none"> 2.1 Understanding about common forest management terms. 2.2 Principles and practices of management of different types of natural and manmade forests in general and in Nepal in particular 2.3 Principles and practices of tree and forest measurement; diameter and height measurement; volume calculation of standing trees, logs and converted timber; measurement of growing stock and yield regulation 2.4 Concepts and methods of timber stand improvement and shrubland management 2.5 Protection of forests from fire, grazing, illegal felling, disease and pest, forest encroachment and invasive species 2.6 Preparation and implementation of forest operational plan and forest management plans 2.7 Principles and methods of community based forest and natural resource management systems in Nepal 2.8 Contemporary issues in Community, collaborative and leasehold forestry Methods and approaches to inventory of community forest and various NTFPs 	(5 Marks)
3. Forestry Research <ul style="list-style-type: none"> 3.1 Concept and methods of experimental design (Blocking, replications, treatments, randomization) 3.2 Designs used in forestry experiments- Randomized block design, Split plot design, factorial designs 3.3 Statistical methods used in forestry research – statistical parameters, F-test, t- test, analysis of variance, covariance analysis, correlation and regression. 3.4 Theory and principles of tree selection, progeny and provenance trial 3.5 Tools and techniques of socio-economic surveys – PRA, RRA, D&D 3.6 Preparation of simple experimental protocols for forestry research 	(5 Marks)

3.7 Theory and skills in review of literature, field data collection, analysis, report writing and referencing

4. Forest resource surveying and mapping (5 Marks)

- 4.1 Forest statistics of Nepal
- 4.2 Principles and methods of forest sampling-size, intensity, unit, simple random sampling, stratified random sampling, systematic sampling
- 4.3 Principles of forest biometrics, tree and forest growth models, volume and yield tables
- 4.4 Principles, tools and techniques used in Remote Sensing, GIS and photo interpretation
- 4.5 Use of surveying and mapping instruments and preparation of forest maps
- 4.6 Theory and practice of National Forest Inventory and role of ground verification
- 4.7 Province no.2, Forest Status and Statists .

5. Soil Conservation (5 Marks)

- 5.1 Soil types, formation and profile, physical and chemical properties and classification
- 5.2 Land use and land capability classification
- 5.3 Concept of hydrological cycle
- 5.4 Types of soil erosions and their preventive and control measures
- 5.5 Soil and water conservation structures - breast walls, retention wall, check dams, ponds, slope stabilization, methods of top soil cover, roadside stabilization
- 5.6 Bioengineering, Soil fertility and indigenous soil fertility management practices in Nepal
- 5.7 Concepts and basics of soil loss assessment and soil analysis

6. Watershed management (5 Marks)

- 6.1 Concept and approaches to sustainable watershed management
- 6.2 Identification, planning and management of micro and macro watershed areas
- 6.3 Interrelationship between forestry, agriculture, livestock and development & infrastructure activities with respect to integrated watershed management
- 6.4 Early warning and prevention from natural hazards, measuring water discharge, water quality analysis and checking water runoff and erosions.
- 6.5 Concept and approaches to water harvesting and conservation farming
- 6.6 Agroforestry systems and practices in Nepal. Criteria for selection of fuelwood, fodder, bamboo and other NTFP species and their production techniques for rural income and employment for poverty reduction
- 6.7 Participatory approaches to soil and watershed management

7. Planning and management of National Parks and Protected Areas (5 Marks)

- 7.1 Concepts, approaches and evolution in Protected Area management systems
- 7.2 Status and classification of Protected Areas in Nepal (National Park, Conservation Area, Hunting reserves, Wildlife Reserve, Buffer Zone)
- 7.3 Preparation and implementation of management plans for different types of Protected Areas. Principles and practice of eco-tourism, visitors' management, conflict resolution and monitoring of Protected Areas and wildlife census
- 7.4 Conservation education, motivation, communication, exhibition and public relations
- 7.5 Fundamentals of ecosystems (population ecology, population density, carrying capacity, population census, predation, reintroduction and relocation)

8. **Management of specific habitat and biodiversity conservation (5 Marks)**

- 8.1 Landscape level conservation and ecosystem services
- 8.2 Approaches for in-situ and ex-situ biodiversity conservation at ecosystem, species and genetic level
- 8.3 Geographical distribution, habitat and behavior of common and endangered wild mammals, birds, reptiles, insects and fish in Nepal.
- 8.4 Types of wildlife habitats, habitat analysis and management techniques
- 8.5 General understanding about IUCN red list, Environmental Impact Assessment (including IEE)
- 8.6 Strategy and Action Plans for the management of rare and endangered wildlife species of Nepal (including Tiger, Rhino, Elephant, Snow leopard, Pangolin, Red Panda, Gharial)

9. **Forest Utilisation (5 Marks)**

- 9.1 Non-timber forest products of economic importance in Nepal
- 9.2 Forest based industries in Nepal
- 9.3 Management, collection, processing and marketing of high value NTFPs in Nepal, value chain of high value wood and non wood products
- 9.4 Role and function of private sector, cooperatives and parastatal institutions
- 9.5 Scope and potential role of different forest products in poverty reduction

10. **Current Forestry Sector Policy, Strategy, Acts and Regulations (5 Marks)**

- 10.1 Forest Act, 2076 and Regulation
- 10.2 Buffer Zone Management Regulations, 2052
- 10.3 Environment Protection Act, 2076 and Regulation
- 10.4 Soil and Water Conservation Act, 2039
- 10.5 National Parks and Wildlife Conservation Act and Regulation
- 10.6 National Biodiversity Strategy and Action Plan, 2014
- 10.7 National Forest Policy, 2075 and Forest Sector Strategy, 2072
- 10.8 REDD strategy, 2018
- 10.9 Climate Change Policy, 2076 (2019)
- 10.10 National Adaptation Plan of Action, 2010
- 10.11 Nationally Determined Contributions, 2016
- 10.12 CITES Act, 2073
- 10.13 Wetland Policy, 2069
- 10.14 Province no.2, forest and soil conservation related plans and policies .
- 10.15 Province no.2, forest and soil conservation related Acts, Rules and Regulations .
- 10.16 Nepal Biodiversity Strategy and Action Plan, 2014
- 10.17 चुरे, तराई, मधेश संरक्षण तथा व्यवस्थापन गुरु योजना, २०७४
- 10.18 जलवायु परिवर्तन नीति, २०७६ र राष्ट्रिय वन नीति, २०७६
- 10.21 स्थानीय सरकार संचालन ऐन, २०७४
- 10.22 क्योटो प्रोटोकल / नागोया सम्झौता
- 10.23 कार्यविधि कानून
- 10.24 वैज्ञानिक प्रतिवेदन तयारी, प्रस्तुतिकरण, अभिलेखिकरण तथा Dissemination सम्बन्धी ज्ञान र अभ्यासको परीक्षण ।

द्वितीयपत्र (Paper II) : Technical Subject

Section (A) - 25 Marks

1. Sustainable Forest Resource Management

- 1.1 Forests and forest types of Nepal
- 1.2 General principles of sustainable forest management (SFM); concept and approaches, principle, criteria and indicators, forest certification
- 1.3 Historical perspectives of forest management in Nepal
- 1.4 Principles and practices of silviculture including forest regeneration, plant propagation, nursery practice, growth and yield modeling, silvicultural systems, tending operations
- 1.5 Drivers of deforestation and degradation in Nepal and recommended mitigation measures
- 1.6 Forest management practices adopted in different forest types, emerging issues, Opportunities and threats in Nepal
- 1.7 Community based forest management systems in Nepal (community forest, collaborative, forest, pro-poor leasehold forest, religious forest, buffer zone forest) : policies, institutions and operational modalities
- 1.8 Scope and opportunities of urban forestry
- 1.9 Importance of human resource development for sustainable forest management
- 1.10 Role of Non-Timber Forest Products (NTFPs) in local livelihoods and national economy
- 1.11 Issues and challenges in production, processing, trade, domestication and commercialization of high value NTFPs in Nepal
- 1.12 General concept on forestry project formulation, project valuation and project management
- 1.13 Contribution of forestry sector in national economy
- 1.14 Demand and supply situation of forest products in Nepal (production sources and value chains);
- 1.15 Role and importance of private sector involvement in forestry business
- 1.16 Carbon sequestration in the context of climate change

Section (B) - 25 Marks

2. Forest Resource Survey, Inventory and Research

- 2.1 Basic principles of statistics: measure of central tendency, coefficient of variation, standard error of mean, measure of skewness, continuous and discrete variables
- 2.2 Forest statistics of Nepal
- 2.3 Basic knowledge on computer based statistical packages, data processing and analysis
- 2.4 Basic principles, practices and techniques used in Remote Sensing (RS) and GIS in forest management planning including land use and land cover changes detection
- 2.5 Principles and practices of forest resource surveys, inventory and mapping
- 2.6 Principles and applications of experimental design in forestry research
- 2.7 Importance of forest genetics and tree improvement in natural and artificial forest resource management
- 2.8 Research, extension and development linkages in forestry
- 2.9 Measuring trees and forest in the natural stand and plantations
- 2.10 Inventory techniques of Non-timber Forest Products

- 2.11 Principles and practices of parametric and non-parametric statistical tests used in forestry research
- 2.12 Principles and practices of forest surveying
- 2.13 Principles of forest biometrics, tree and forest growth models and preparation of volume tables, yield table and biomass tables
- 2.14 National forest inventory, procedures used in planning, management, field data collection, data compilation and presentation in forest surveying
- 2.15 Importance of forestry research and associated issues in forest management and silviculture, biodiversity conservation, tree improvement and agroforestry, soil and water conservation, protected areas and wildlife management, NTFPs and other forestry related areas
- 2.16 Types of research (basic research, adaptive research, action research), and advantages/ disadvantages and their limitations Basics of Forestry research planning, design and field implementation
- 2.17 Research on socio-economic and policy aspects of forests, wildlife and watershed management, wildlife census, monitoring and camera trapping

Section (C) - 25 Marks

3. **Soil Conservation and Watershed Management**
 - 3.1 Concept of soil conservation and watershed management
 - 3.2 Understanding the concept of soil and water conservation in different ecological zones of Nepal
 - 3.3 Natural and man made erosion, mass movement, landslides, slope failure and factors responsible for water induced erosion
 - 3.4 Preventive and rehabilitative measures for soil conservation methods and tools
 - 3.4.1 Contour trenching, bunding, diversion channels, gully plugging, shelter belt, green belt, contour planting, wattling, fascining, grass planting, reseeding, maintenance of forest biomass.
 - 3.4.2 Conservation farming, cover cropping, zero tillage, crop rotation, mulching. Green manuring, contour strip cropping, terracing, runoff harvesting and gully plugging
 - 3.5 Understanding and use of universal soil loss equation
 - 3.6 Bio-engineering techniques and their importance to stabilize slope failure, stream/riverbank cutting, control of erosion along small streams and rivers, improvement of irrigation canals
 - 3.7 Principles and practices of sustainable soil management to land productivity conservation in Nepal
 - 3.8 Basic concepts of hydrological cycle and its relationships to watershed management
 - 3.9 Importance and relationship of watershed management to water harvesting development activities such as irrigation, hydropower and drinking water supply scheme.
 - 3.10 Understanding of Soil formation process and its parent materials, geological process, soil profile, soil particles and size classes, soil texture and textural classification, soil structure and classification
 - 3.11 Maintenance of soil fertility and effect of vegetation on physical, chemical and biological properties of soil and its organic matter, decomposition of plant residues and development of humus, importance of macroscopic and microscopic organisms in soil

- 3.12 Empirical estimation of stream flow, estimation of runoff volume and yield, water flow regulating structures, catchments ponds, stream gauging for measuring discharge, weirs and flumes, retaining walls, different kinds of check dams, embankments, spurs, spillways, chutes
- 3.13 Understanding hydrology and its processes, precipitation, rainfall intensity, interception, evapotranspiration, runoff, movement of water into and through the soil, water yield.
- 3.14 General characteristics and principles of watershed prioritization, integrated approach of watershed management
- 3.15 Upstream and downstream linkages, payment for environmental services, equitable benefits sharing
- 3.16 Coordination mechanism and integration of agriculture, forestry, livestock and water resource interventions in integrated sub-watershed management plan.
- 3.17 Participatory approach of watershed management and decision making, participatory monitoring and evaluation of watershed management activities
- 3.18 Emerging problems of Churia watershed and strategies to mitigate the watershed degradation problems of Churia, Bhawar, Terai
- 3.19 Theory and practices of agro-forestry in Nepal, and criteria and indicators for selection of agro-forestry species with respect to ecological zone of Nepal

Section (D) - 25 Marks

4. **Biodiversity Conservation and Protected Area Management (15 Marks)**
 - 4.1 History, development and status of protected areas in Nepal
 - 4.2 Principles and practices of protected area management
 - 4.3 Protected area types and management modalities: national parks, wildlife reserve, hunting reserve, conservation area, buffer zone
 - 4.4 Concept of ex-situ and in-situ biodiversity conservation at different levels (species, genetic and ecosystems)
 - 4.5 Conservation biology, wildlife biology, forest ecology, mammalogy, ornithology and herpetology,
 - 4.6 Wildlife farming, and market opportunities for sustainable management and trade of wildlife products;
 - 4.7 Wildlife population dynamics, species status, abundance, distribution and classification (IUCN Red Data Book and CITES Appendix)
 - 4.8 Engagement of local communities in protected area management system
 - 4.9 Ecotourism in biodiversity conservation and protected area management
 - 4.10 Wildlife habitat management including grassland and wetland management
 - 4.11 Economic valuation of biodiversity conservation and environmental services
 - 4.12 Landscape level conservation planning, integrated protected area management, and species conservation action plan
 - 4.13 Trans-boundary coordination and cooperation
 - 4.14 Major threats and challenges of biodiversity conservation
 - 4.15 Human wildlife conflicts : Pattern, remedies and existing policy mechanism
 - 4.16 Management of endemic, endangered, rare and vulnerable species, introduction and reintroduction, translocation and meta population of the species,
 - 4.17 Protected area management planning, implementation, monitoring and evaluation process
 - 4.18 Zoological and botanical garden, rescue centers and wildlife hospitals

5. Crosscutting issues in forestry sector of Nepal (10 Marks)

- 5.1 Initial Environment Examination, Environment Impact Assessment and Strategic Environment Assessment, conservation and development related projects
- 5.2 Research and extension in forestry sector
- 5.3 Forest and wildlife crime and law enforcement, legal procedures and provisions
- 5.4 Climate change, mitigation and adaptation measures
- 5.5 Monitoring and evaluation based on outcomes and impacts
- 5.6 Bottom-up planning process, project cycle and logical framework approach
- 5.7 International conventions, agreements, treaties and protocols related to forests, biodiversity conservation, climate change, land degradation such as UNFCCC, UNCCD, CBD, CITES, RAMSAR
- 5.8 Roles and scopes of national and international conservation partners
- 5.9 Role of conservation education, extension and awareness, outreach and communication, and media roles in conservation
- 5.10 Gender and social inclusion
- 5.11 Forestry sector governance
- 5.12 Organizational structures of government and its roles in forest conservation and management
- 5.13 Disaster risk reduction: earth quake, forest fire, landslides and floods,
- 5.14 Sustainable Development Goals (SDGs)/ Global Forest Goals
- 5.15 Quasi judicial body and functions in forestry sector

प्रदेश लोक सेवा आयोग, प्रदेश नं. २
वन सेवाका जनरल फरेस्ट्री, फरेष्ट रिसचर र स्वायल एण्ड वाटर कन्जर्मेशन समूहका
अधिकृत सातौं तहका पदहरुको खुला तथा अन्तर सेवा प्रतियोगितात्मक परीक्षाका

वन सेवाका समूह/उपसमूह, अधिकृत सातौं तहका पदमा प्रथम चरणको लिखित परीक्षाबाट छनौट भएका
उम्मेदवारहरुलाई मात्र लिइने सामूहिक परीक्षण (**Group Test**) को लागि

सामूहिक छलफल (**Group Discussion**)

यस प्रयोजनका लागि गरिने परीक्षण १० पूर्णाङ्क र ३० मिनेट अवधिको हुनेछ जुन नेता विहिन सामूहिक छलफल (Leaderless Group Discussion) का रूपमा अवलम्बन गरिन छ। दिइएका प्रश्न वा Topic का विषयमा पालैपालोसँग निर्दिष्ट समय भित्र समूह वीच छलफल गद प्रत्येक उम्मेदवारले व्यक्तिगत प्रस्तुति (Individual Presentation) गर्नु पर्नेछ। यस परीक्षणमा मूल्याङ्कनका लागि ३ जना भन्दा बढीको समिति रहनेछ।