नेपाल सरकार
नेपाल कृषि अनुसन्धान परिषद्
पदपूर्ति समिति

मुख्यवैज्ञानिक, एस-५, (Principal Scientist, S-5), सबै उपसमूहको आन्तरिक प्रतियोगितात्मक लिखितपरीक्षाको लागि पाठ्यक्रम

यस पाठ्यक्रम योजनालाई दुई चरणमा विभाजन गरिएको छ ।
प्रथम चरणः लिखित परीक्षा (Written Examination) पूर्णाङ्कः २००
द्वितीय चरणः अन्तरवार्ता (Interview) पूर्णाङ्कः ३०

१. प्रथम चरण (First Phase): लिखित परीक्षा (Written Examination) पूर्णाङ्कः २००

Paper	Subject	Mark	Full Mark	Pass Mark	No. Questions (Q)xMark (M) = Total Marks	Time Allowed
I	Part I: Management	20	100	40	2Q x 10M = 20 (Long Answer)	3.00 Hours
	Part-II: Agriculture Research and development Issues	80			6Q x 10M = 60 (Short Answer) 1Q x 20M = 20 (Long Answer)	
II	Technical Subject		100	40	5Q x 10M = 50 (Critical Analysis) 2Q x 25M = 50 (Problem Solving)	3.00 Hours

२. द्वितीय चरण(Second Phase): Interview पूर्णाङ्कः ३०

Subject	Full Marks	System
Interview	30	Oral

द्रष्टव्यः

१. यो पाठ्यक्रम योजनालाई प्रथम चरणमा लिखित परीक्षा र द्वितीय चरणमा अन्तरवार्ता परीक्षा गरी दुई चरणमा विभाजन गरिएकोछ ।
२. लिखित परीक्षाको माध्यम भाषा नेपाली वा अंग्रेजी अथवा नेपाली र अंग्रेजी दुबै हुन सक्ने छ ।
३. समान पद/तहको प्रथम पत्र सबै उपसमूहको लागि पाठ्यक्रम एउटै भएको कारण एकिकृत परीक्षा सञ्चालन हुनेछ । तर द्वितीय पत्र Technical Subject को पाठ्यक्रम उपसमूह अनुरुप फरक फरक हुनेछ ।
४. प्रथम र द्वितीय पत्रको लिखित परीक्षा छुट्टाछुट्टै हुनेछ ।
५. प्रथम पत्रकोPart-IR Part-II का लागि छुट्टाछुट्टै एक एक वटा उत्तर पुस्तिका हुनेछन् ।
६. परीक्षामा कुनै प्रकारको विद्युतीय उपकरण तथा क्याल्कुलेटर (Calculator) प्रयोग गर्न पाइने छैन ।
७. यस पाठ्यक्रम योजना अन्तर्गतका पत्र/विषयका विषयबस्तुमा जेसुकै लेखिएको भएतापनि पाठ्यक्रममा परेका कानून, ऐन, नियम, विनियम तथा नीतिहरु परीक्षाको मिति भन्दा ३ महिना अगाडि (संशोधन भएका वा संशोधन भई हटाइएका वा थप गरी संशोधन भई) कायम रहेकालाई यस पाठ्यक्रममा परेको सम्झनु पर्दछ ।
८. पाठ्यक्रममा भएका यथासम्भव सबै पाठ्याशंहरुबाट प्रश्नहरु सोधिने छ ।प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवाहरुलाई मात्र द्वितीय चरणको अन्तरवार्तामा सम्मिलित गराइने छ ।
९. प्रथम चरणको लिखित परीक्षाबाट छनौट भएका उम्मेदवारको प्राप्ताङ्क र द्वितीय चरणको अन्तरवार्तामा प्राप्त गरेको अंक जोडी योग्यताक्रम अनुसार सिफारिस गरिनेछ ।
१०. पाठ्यक्रम लागू मितिः २०७०।१२।२०
११. यस भन्दा अगाडि लागू भएको पाठ्यक्रम खारेज गरिएको छ ।

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Paper: 1

Management and Agricultural Research and Development (Common For all Sub-groups)

Part-I: Management

A. Management:

1. Concept, principles, functions, scope, challange, leadership style
2. Participative Management: concept, opportunity, techniques of participation
3. Conflict management: concept, approaches to conflict, levels of conflict, causes of conflict and strategies for conflict management
4. Stress management: Concept, causes and sources of stress, techniques of stress management

B. Finance and Human Resource:

1. Human resources management: concepts, approaches and functions
2. Leadership: concept, opportunityand functions
3. Coordination: concept, need, types, techniques and approaches for effective coordination
4. Motivation: Concept, theories of motivation, reasons for low productivity, techniques of employ motivation
5. Decision making: importance, types, rational process of decision process
6. Financial management: concept, approaches, budget formulation, and implantation, auditing and reporting

Part-II: Agriculture Research and Development Issues

1. Constitution of Nepal: Food, agriculture and natural resources related issues
2. Current national agricultural policies, strategies and plans: National Agriculture Policy, Agricultural Biodiversity Policy, Climate Change Policy, Agriculture Development Strategy (ADS), Seed Vision, Poultry Policy, Pasture Policy and Floriculture Promotion Policy and agriculture related issues in periodic plan
3. Nepal Agriculture Research Council as National Agricultural Research System: national and global perspectives

4. International Agricultural Research Organizations: CGIAR and IARCS - CIAT, CIMMYT, CIP, ICRISAT, ICARDA, World Fish, ICRAP, IFPRI, IITA, ILRI, Bioversity international, IRRI, IWMI, AVRDC, ICIMOD, ICRAF, IFDC, IFAD and FAO

5. Agricultural Innovation System: concept, actors, relationship between actors and accountability to stakeholders

6. Agricultural research farm management

7. Agricultural research project management: Problem and objective tree analysis, logframe development, effect and impact assessment and its linkage with technology users

8. Public private partnership in agriculture research

9. Entrepreneurs and agri-business development through agricultural research

10. Approaches of agricultural research in the context of federalism

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नेपाल सरकार

नेपाल कृषि अनुसन्धान परिषद्

पदपूर्ति समिति

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Paper: II

Techinical Subject

Sub-Group: Pomology

1. **Concepts in Basic Horticulture and Physiology**
   - 1.1 Opportunities and potentialities for different fruits and plantation crops
   - 1.2 Constraints and remedies for production and marketing
   - 1.3 Area coverage, production and trade situation
   - 1.4 Physiological aspects of seed germination, dormancy, flowering, fruiting and ripening
   - 1.5 Plants growth regulators and their application
   - 1.6 Causes and mitigation measures of unfruitfulness in fruits and plantation crops

2. **Orchard Management and Production Technology of Native and Exotic Fruit and Plantation Crop Species**
   - 2.1 Environmental requirement and varieties
   - 2.2 Advance of soil and water management practices
   - 2.3 Canopy management
   - 2.4 Nutrient management
   - 2.5 Weed management
   - 2.6 Disease and insect pest management
   - 2.7 Abiotic and biotic stresses and their management
   - 2.8 High density planting; concepts, techniques, applications and constraints
   - 2.9 Organic production of fruits and plantation crops
   - 2.10 Precision horticulture; concepts, application and technologies in fruits and plantation crops
   - 2.11 Pollination management
   - 2.12 Protected cultivation

3. **Conservation and Varietal Improvement of Perennial Crops**
   - 3.1 Genetic diversity of fruits and plantation crops in Nepal
   - 3.2 Collection, conservation and use of germplasm
   - 3.3 Nature and strategies for variety improvement of fruits and plantation crop
   - 3.4 Propagation techniques
   - 3.5 Root stocks and their effects
   - 3.6 Use of biotechnology in horticulture
   - 3.7 Maintenance of fruits and plantation crops varieties

4. **Climate Change and Environmental Issues**
   - 4.1 Climate change causes and effect
   - 4.2 Impact of climate change on fruits and plantation crops
   - 4.3 Mitigation of adverse effect of climate change with special reference to fruits and plantation crops

5. **Postharvest Management and Marketing**
   - 5.1 Postharvest physiology of fruits and plantation crops
   - 5.2 Maturity indices, ripening and harvesting techniques
   - 5.3 Factors affecting postharvest losses and their management

5.4 Packing house operation; sorting, grading, curing, washing, waxing, de-greening, ripening, fumigation, disinfection, irradiation, heat treatment, packaging
5.5 Pre-cooling and cold-chain movement
5.6 Methods of storage
5.7 Management of postharvest disease pest and physiological disorders
5.8 Processing and preservation techniques
5.9 Sanitization, sanitary and phytosanitary requirements
5.10 Market value chain management

6. Research and Development

6.1 Fruit and plantation crop research and development programs in Nepal- critical review
6.2 Organizational structures for effective technology generation and its delivery
6.3 Research and development programs of Government on fruits and plantation crop: critical review
6.4 Linkages between extension and research for technology generation and delivery system
6.5 Strategies for import substitution and export promotion fruits and plantation crops
6.6 Opportunities and challenges of WTO and SAFTA for Nepalese fruits and plantation crops
6.7 Experimental design, data analysis and interpretation of results