This examination is conducted in two phases:

**First Phase:**

1. **Written Examination**
   - **Part I:** Management
     - Full Mark: 20
   - **Part II:** Agriculture Research and Development Issues
     - Full Mark: 80
   - Total Pass Mark: 100

2. **Technical Subject**
   - Full Mark: 100

**Second Phase:**

- **Interview**
  - Full Marks: 30

**Marks Calculation:**
- **First Phase:**
  - Total Marks: 200
- **Second Phase:**
  - Total Marks: 30

**Time Allowed:**
- First Phase: 3.00 Hours
- Second Phase: 3.00 Hours

**Preparation Tips:**
1. Read the examination syllabus thoroughly.
2. Practice previous year's question papers.
3. Focus on understanding rather than memorization.
4. Regular revision is key.
5. Stay calm during the exam.
6. Use of calculators is allowed in the examination.
7. Ensure you have all necessary materials.
8. Manage your time effectively.
10. Good luck!
Management and Agricultural Research and Development
(Common For all Sub-groups)

Part-I: Management

A. Management:
   1. Concept, principles, functions, scope, challenge, 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, opportunity and 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, ICRAF, 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
1. **Crop Pests**
   1.1 Bio-ecology of insects, mite and rodent pests of the following crops and stored products:
      1.1.1 Cereals
      1.1.2 Grain legumes
      1.1.3 Oil seed crops
      1.1.4 Vegetable crops
      1.1.5 Fruit crops
      1.1.6 Tobacco, Jute, Cotton, Sugarcane, Tea, Coffee, Potato.
      1.1.7 Stored grains and other products

2. **Integrated Pest Management**
   2.1 Concepts
   2.2 Tools
   2.3 Present status and progress in Nepal.

3. **Biological Control**
   3.1 Parasitoids and predators
   3.2 Techniques in biological control
   3.3 Integrated biological control
   3.4 Commercial production of bio-control agents
   3.5 Integration with other tactics

4. **Microbial Control**
   4.1 Concepts
   4.2 Bacterial pathogens
   4.3 Fungal pathogens
   4.4 Viral pathogens
   4.5 Other pathogens
   4.6 Potential in IPM

5. **Botanical Control**
   5.1 Promising plant species
   5.2 Effects on non-target organisms
   5.3 Environmental impact
   5.4 Potential in IPM
6. Synthetic Organic Pesticides
   6.1 Major groups of insecticides
      6.1.1 Organochlorines
      6.1.2 Organophosphates
      6.1.3 Carbamates
      6.1.4 Synthetic pyrethroids
   6.2 Other pesticides
      6.2.1 Miticides
      6.2.2 Rodenticides
      6.2.3 Miscellaneous
   6.3 Status of pesticide use in Nepal
   6.4 Selection of insecticides for IPM
   6.5 Application technology
   6.6 Environmental impact

7. Biotechnological Approaches
   7.1 Concept
   7.2 Methodology
   7.3 Transgenic plants
   7.4 Pyramiding genes
   7.5 Potential in IPM

8. Bio-rational and other Approaches
   8.1 Chemicals based on insect cuticle
   8.2 Chemical based on endocrine system
   8.3 Chemicals based on communication system
   8.4 Miscellaneous approaches
      8.4.1 Light - activated pesticides
      8.4.2 Propesticides
      8.4.3 Avermectins
      8.4.4 Spinosyns
      8.4.5 Genetic control
      8.4.6 Chemosterilants
      8.4.7 Repellents
   8.5 Current status of biorational use
      8.5.1 Insect growth regulators
      8.5.2 Semiochemicals

9. Others
   9.1 Plant protection organization under the Ministry of Agriculture and Livestock development
   9.2 Plant protection organization under the Nepal Agricultural Research Council
   9.3 Pests and pesticide regulations

[Signatures]