

- 1. Plant Resources and Diversity**
  - 1.1 Status, management and utilization of plant resources
  - 1.2 Management Policy and Strategy of Plant Resources in Nepal
  - 1.3 Endangered and Protected plants of Nepal
  - 1.4 Wild edible plants of Nepal
  - 1.5 Identification problems and solutions on plant resources conservation and management
- 2. Biotechnology and Bio-safety**
  - 2.1 Principles and application of plant biotechnology
  - 2.2 Role of plant tissue culture in plant improvement
  - 2.3 Bio-safety and its role in Human Health and environment
  - 2.4 Bio-safety measures and global effort such as Bio-safety Protocol
- 3. Plant Genetic Resources**
  - 3.1 Overview and status in Nepal
  - 3.2 Exploration and population sampling
  - 3.3 Collection tactics
  - 3.4 Domestication process
  - 3.5 Conservation strategy
  - 3.6 Utilization
- 4. International Convention and Treaties**
  - 4.1 Convention on Biological Diversity, 1992**
    - 4.1.1 Operation of the Convention on Biological Diversity (CBD)
    - 4.1.2 Review of implementation at the National level
    - 4.1.3 Nepal Biodiversity Strategy, 2002
    - 4.1.4 Nepal Biodiversity Strategy Implementation Plan (2003-2008)
    - 4.1.5 Access to genetic resources and benefit sharing
    - 4.1.6 Bio-piracy
  - 4.2 Convention on International Trades in Endangered Species of Wild Fauna and Flora (CITES) 1973, World Trade Organization (WTO)**
    - 4.2.1 Operation of the convention
    - 4.2.2 Appendices and their functioning
    - 4.2.3 Implementation at the national level and national legislation
- 5. Non-timber Forest Products (NTFPs) and Medicinal and Aromatic Plants (MAPs)**
  - 5.1 Overview, status and categorization of NTFPs and MAPs
  - 5.2 Management and utilization practices of NTFPs and MAPs
  - 5.3 Policy and legal measures and constraints for the cultivation and utilization of NTFPs and MAPs
  - 5.4 Domestication of Medicinal plants/herbs in Nepal
- 6. Herbarium and Plant Research**
  - 6.1 History of plant exploration in Nepal
  - 6.2 Classification system
  - 6.3 Role and management of National Herbarium in plant development
  - 6.4 Vegetation of Nepal
  - 6.5 Major areas of plant research in Nepal
  - 6.6 Linkage of plant research and herbarium development
- 7. Botanical Gardens**
  - 7.1 Classification and types of Botanical Gardens
  - 7.2 Organization and function of Botanical Gardens

- 7.3 Role and contribution of Botanical Gardens in national development including eco-tourism
  - 7.4 Management and logistic support for Botanical Gardens in relation to maintenance of Plant Resources
  - 7.5 Role of National Herbarium in teaching institutions of Nepal
- 8. Cross-Cutting Issues in Plant Resource Management**
- 8.1 Process of monitoring and evaluation
  - 8.2 Management information system for scientific and plant resources conservation purposes
  - 8.3 Institutional and Organizational development for conservation and utilization plant resources with special reference to Department of Plant Resources
  - 8.4 Protection and utilization of knowledge, innovation and practices of the indigenous communities for conservation and sustainable use of plant genetic resources
  - 8.5 Capacity building for development and transfer of technology
  - 8.6 Joint efforts of Botanists, Chemists and Pharmacists for natural product development and utilization
  - 8.7 Types and management of laboratories for plant resource development

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**Model Questions**

**Analytical review - Long answer – 4 X 15 = 60**

- 1 Mention the present status of our knowledge on the wild edible plants of Nepal. Discuss various factors responsible for their under utilization in a food deficit country like Nepal.
- 2 What do you know about “*Biosefty Protocol*”? Discuss its role in the protection of human health and environment with reference to Nepal.
- 3 There are many endemic and endangered plant species found in Nepal. Examine critically their status and what steps Government has taken to protect those species in Nepal.
- 4 National Herbarium has been exploring and investigating on the plant diversity of Nepal. Analyze critically its status, contribution and the service rendered for the development of knowledge on welfare of Nepalese people.

**Analytical and problem solving – Long Answer – 2 X 20 = 40**

5. You are investigating on plant resources of the country. An unidentified specimen of a mushroom is given to you. You have to carry a joint collaborative research for its investigation. State on what aspects and how will you carry the investigation to develop and utilize the unknown species. .
6. Explain the concept and process in monitoring and exploration of trade and marketing trends of high value MAPS of Nepal. Suggest a model that ensures equitable benefit sharing by all the stockholders.