

## Section A – 30 Marks

### 1. Biodiversity Conservation and Protected Area Management (Section 1&2: 10%)

- 1.1 Strategy For Biodiversity Conservation
  - 1.1.1 Nepal's Biodiversity and its significance
  - 1.1.2 Ecosystem Diversity
  - 1.1.3 Species Diversity
  - 1.1.4 Genetic Diversity
- 1.2 Existing Mechanisms for conserving Biodiversity
- 1.3 Major Threats to Biodiversity Conservation
- 1.4 Strategy to Conserve Biodiversity
- 1.5 Protected Area Management
  - 1.5.1 Planning of Protected Areas
  - 1.5.2 The Master Plan
  - 1.5.3 The Management Plan
  - 1.5.4 The Resource Profile
  - 1.5.5 Management Strategy Framework
  - 1.5.6 Management Effectiveness

### 2. Biodiversity Assessment and Research

- 2.1 Assessing Biodiversity
- 2.2 Biodiversity Assessment Techniques
- 2.3 Setting Conservation Priorities
- 2.4 Monitoring, Management Information System (MIS)
- 2.5 Ecological Research Techniques

### 3. National Park and Protected Area Planning & Management 20%

- 3.1 Classification of protected area (National Park, Wildlife Reserve, Strict Nature Reserve, Hunting Reserve, Conservation Area and Buffer Zone)
- 3.2 Conflict management
- 3.3 Fundamentals of planning, Participatory Planning
- 3.4 Guidelines for preparing Management Plan for protected areas and its implementation,
- 3.5 Modern approach in protected area planning: ZOPP (Objective oriented project planning), APPA (Appreciative project planning and action), GIS & GPS (Geographical Information System and Global positioning system)
- 3.6 Management of genetic diversity
- 3.7 Management of rare and endangered species, endemic species
- 3.8 Reintroduction and translocation of important endangered wildlife (e.g. Rhino, Black buck, Gharial)
- 3.9 Census methods for wild animals
- 3.10 Wildlife farming and utilization
- 3.11 Needs and techniques in environmental impact assessment (EIA) in protected areas
- 3.12 Initial Environmental Examination (IEE)
- 3.13 Monitoring, Understanding the importance of In-situ and Ex-situ conservation
- 3.14 Involvement of NGOs for Protected Area Management

## Section B – 30 Marks

- 4. Buffer Zone and Conservation area Management** **10%**
- 4.1. Concept of Buffer Zones, its importance and modalities
    - 4.1.1 Preparation and Implementation of Buffer zone management Plan
    - 4.1.2 Mechanism of people's participation in protected area management
    - 4.1.3 Integrated Conservation and Development Plan
    - 4.1.4 Community Forest management in the Buffer Zone
  - 4.2. Tourism and Recreation Management
    - 4.2.1 Basic Principle
    - 4.2.2 Planning Process
    - 4.2.3 Current Tourism Context
    - 4.2.4 Tourism Management Plan
    - 4.2.5 Tourism Impact
    - 4.2.6 Tourism products and promotion
    - 4.2.7 Motivation and satisfaction
- 6. Natural Resource Planning and Management (Wildlife and Habitat management)** **20%**
- 6.1 Wildlife (Population) Ecology:
    - 6.1.1 Population density
    - 6.1.2 Mortality
    - 6.1.3 Survival rate
    - 6.1.4 Population growth rate
    - 6.1.5 Population census
    - 6.1.6 Predation
    - 6.1.7 Dispersal
    - 6.1.8 Migration
    - 6.1.9 Concept of reintroduction of species
    - 6.1.10 Carrying capacity
    - 6.1.11 Limiting factors
  - 6.2 Habitat Management:
    - 6.2.1 Type of Wildlife habitats
    - 6.2.2 Habitat analysis
    - 6.2.3 Habitat Management techniques
    - 6.2.4 Grassland management
    - 6.2.5 Fire management and
    - 6.2.6 Wetland management/rangeland/pasture land management

## Section C – 20 Marks

- 5. Fundamentals of Biology** **20%**
- 5.1 Classification and phylogeny of animal kingdom
    - 5.1.1 Mammalogy
    - 5.1.2 Geographical distribution
    - 5.1.3 Status and behavior of common and endangered animals of Nepal and their ecology
    - 5.1.4 Identification of animal's species
    - 5.1.5 Animal behavior

## लोक सेवा आयोग

नेपाल वन सेवा, नेशनल पार्क्स एण्ड वाइल्डलाइफ समूहको राजपत्राङ्कित तृतीय श्रेणीका पदहरूको खुला र आन्तरिक प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

- 5.1.6 Population dynamics, Population genetics related Problems
- 5.2. Ornithology:
  - 5.2.1 Identification and Classification of birds of Nepal and their behavior (territorial, nesting, mating, parasitism, competition, migration, feeding, Flock (Seasonal variation of food, predation)
  - 5.2.2 Geographical distribution
  - 5.2.3 Status and behavior of common and endangered birds of Nepal and their ecology
- 5.3. Herpetology:
  - 5.3.1 Geographical distribution
  - 5.3.2 Status of endangered reptiles of Nepal and their ecology
  - 5.3.3 Ecological significance of common reptiles and amphibians of Nepal.
- 5.4 Ecological significance of moths, butterflies and other insects
- 5.5 Fish:
  - 5.5.1 Distribution and status of wild fishes of Nepal
- 5.6 Ecology:
  - 5.6.1 Fundamentals of Ecology
  - 5.6.2 Major Ecosystems of Nepal
  - 5.6.3 Biogeography and physio-geographic classification of Nepal
  - 5.6.4 Zoo-geographical regions of the world
  - 5.6.5 Plant ecology
  - 5.6.6 Major forest types of Nepal
  - 5.6.7 Grassland, wetland and rangeland/pastures

## Section D – 20 Marks

### 7. Conservation Education (7&8: 10%)

- 7.1 Introduction to conservation education and its importance
- 7.2 Fundamentals of communications and public relations
- 7.3 Concept of visitor centers
- 7.4 Operation of Audio Visual equipment
- 7.5 Preparation of exhibits and display

### 8. Conservation Legislation

- 8.1 Major Policies:
  - 8.1.1 National Biodiversity Strategy (NBS) 2002
  - 8.1.2 National Conservation Strategy (NCS) 1988
  - 8.1.3 Master plan for forestry sector (MPFS) 1988
  - 8.1.4 NEPAP
  - 8.1.5 Nepal Environmental Protection Act, and
  - 8.1.6 National Wetland policy (NWP) 2003
  - 8.1.7 Terai Arc landscape Strategy (TALS) 2004
  - 8.1.8 Wildlife farming
- 8.2 Acts and Rules:
  - 8.2.1 National park and wildlife conservation (NPWC) Act 1973
  - 8.2.2 Forest act (FA) 1993
  - 8.2.3 Aquatic Animals protection act (AAP) 1961
  - 8.2.4 The tourism Act 1978
  - 8.2.5 Environment protection act (EPA) 1996 and

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8.2.6 Conservation area management regulations

8.2.7 Buffer zone management Regulations

8.2.8 Other regulations

### 9. Protection and Law enforcement (9&10: 10%)

9.1 Introduction

9.2 Antipoaching Strategy

9.3 Capacity Building

9.4 Patrolling, random checks and road blocks

9.5 Arresting Procedure

9.6 Risk mitigation

### 10 Conventions and Organizations

10.1 Role of international/national organizations World conservation union (IUCN), World Wildlife Fund (WWF), King Mahendra Trust For Nature Conservation (KMTNC)

10.2 Convention on International Trade in Endangered Species (CITES) of wild flora and fauna, The World Heritage convention, The Ramsar Convention, Convention on Biological diversity (CBD), Global Tiger Forum (GTF)

द्वितीय पत्रको एकाईहरूको प्रश्नसंख्या निम्नानुसार हुनेछ

द्वितीय पत्रका खण्ड	A			B		C	D			
द्वितीय पत्रका एकाई	1	2	3	4	6	5	7	8	9	10
प्रश्न संख्या	1		2	1	2	2	1		1	

### विषयगत नमूना प्रश्नहरू (Sample questions)

1. Describe the process of ecological Invasions by Animal and Plants.
2. What ecological changes are expected while using fire as a tool for habitat management
3. Prepare a conservation plan for the conservation of biodiversity in Nepal.
4. Compare the strength of line transect with point count in distance sampling.
5. Describe the sense of smell, hearing and vocalization in birds.
6. Define the terms ecosystem and discuss it in the context of any aquatic body.
7. Write an essay on Zoogeographical Region of the world.
8. Describe any two wildlife census techniques that give a true estimate of an animal population.
9. Discuss the emerging issues in the legal and procedural aspects of wildlife and buffer zone management in Nepal.
10. What do you mean by population dynamics? Describe briefly the factors that cause population fluctuation.