

Forestry

1. Forest Management

- 1.1 History of forest management in Nepal, classification of forests and its purpose
- 1.2 Definition and concept of normal forests, attributes of normality and its implications
- 1.3 Principles and practices of management of different types of natural and manmade forests
- 1.4 Concept of rotation and conversion in forest management, choice and application,
- 1.5 Concept of growing stock, increment and site quality, determination of actual growing stock.
- 1.6 Yield, its types and yield regulation, principle of sustain yield management, yield table and its uses
- 1.7 Concept of Annual Allowable Cut and its practices in different forest types
- 1.8 Concept and principle of sustainable forest management and its application in the Nepalese context
- 1.9 Concept of forest certification and forest certification schemes in Nepal
- 1.10 Preparation and implementation of forest operational plans, forest management plans
- 1.11 Challenges in application of forest management principles in context of Nepal

2. Mensuration

- 2.1 Principles and practices of tree and forest measurement; diameter and height measurement and form factor.
- 2.2 Volume calculation of standing trees, logs and converted timber
- 2.3 Volume table and Biomass table, techniques of its constructions and their applications
- 2.4 Concept of growth/increment of trees, types, increment percent and determination of increment.
- 2.5 Forest sampling and inventory types of sampling.
- 2.6 Use of RS/GIS in forest inventory, Photo interpretation, Use LiDAR in forest inventory.

3. Silviculture

- 3.1 The locality factors of the forest and development of forest through succession
- 3.2 Concept of tree improvement, Methods used for improvement, Importance and management of seed orchard
- 3.3 Silviculture characteristics of major tree species of Nepal
 - 3.3.1 Natural regeneration and artificial plantations, growth and utilization
 - 3.3.2 Coppicing power
 - 3.3.3 Allelopathy
- 3.4 Silviculture systems
 - 3.4.1 Types of silviculture systems and their objective of implementation
 - 3.4.2 Formulation of silvicultural systems and its adoption in different forest types

4. Forest Research and Statistics

- 4.1 Experimental design (CRD, RCBD, LSD, Factorial, mean Comparison)
- 4.2 Statistical methods used in forestry research – statistical parameters and tests
- 4.3 Multiple regression model, assumption, estimation and testing of coefficient of determination.
- 4.4 Theory and skills in review of literature, types of research, formulation of research proposal and field data collection.
- 4.5 Methods of data analysis, report writing, referencing, documentation and formatting report
- 4.6 Forestry research for development (gaps, challenges and way forward)

5. Others

- 5.1 Forestry Sector Policy, Strategy, Acts, Rules and Regulations
- 5.2 Evolution of Community forestry and its functioning, CF Management Plan,
- 5.3 Potentials and Challenges in enhancing socio economic condition of CFUGs
- 5.4 Development of Collaborative Forest Management in managing Terai forests.
- 5.5 Forest fire management strategies by Government and Community Based Fire Management (CBFiM) in Nepal
- 5.6 Agroforestry systems and practices and its role in food security
- 5.7 Domestication and commercialization of Non-Timber Forest Products
- 5.9 Forest financing opportunities (Payment for Ecosystem Services, Reduced Emissions from Deforestation and Forest Degradation)