NEW SYLLABUS

Syllabus for the B.Sc (Forestry) students to be admitted in the year 2009-2010
Forestry Paper – I (1st Year Theory)

(FORESTRY SILVICULTURE ECOLOGY & MENSURATION)

UNIT-1: SILVICULTURE : A

(34 h)

1) Study of forestry and its significance (8 h)

2) Vegetation forms of India (Vegetation of mountains, Tropical Rain Forest, Desert, Tropical Deciduous Forest, scrub forest, and mangrove forest (4 h)

3) Factors effecting Forest:

   i. **Edaphic factors**:- Definition – Soil formation – Factors effecting soil formation – Soil profile – Soil Composition – Soil texture – Soil Structure – Nutrient Level of Soil – mineral cycle – soil water – various forms of water present in soil - Field capacity of soil – soil Organic Mater – Soil reaction (or) Soil pH – Forest Soil's of India. (8 h)

   ii. **Climate Factors**:- Effect of Temperature – Frost & it's injuries – Protection from frost – Effect of light – Heliophytes – Sciophytes – Precipitation – Types of precipitation like rainfall, Dew, Mist, Snowfall etc., - rainfall in India – hydrological cycle – wind and it's effect – Microclimate. (8 h)

   iii. **Biotic Factors** – Relationship between plant and plant, plant and animals, plant and man. (4 h)

   iv. **Physiographic factors**:- Altitude, Slope, direction of Mountain and Exposure to light. (2 h)

UNIT-2 : SILVICULTURE : B

(34 h)

4) Silviculture of some economically important species in India such as: *Acacia catechu, Acacia nilotica, Azadiractra indica, Bamboo* spp, *Buetea monosperma, Casurina equisitifolia, Cedrus deobara, Pinus roxbrghii, Populus, Pterocarpus marsupiam, Santalum album, Shorea robusta, Teciona grandis* and *Terminalia tomentosa* (22 h)

5) Agro Forestry – Scope and necessity – Classification of Agro Forestry. (6 h)

6) Social / Urban Forestry:- Objectives, Scope and necessity. (6 h)

UNIT-3 : FOREST ECOLOGY:

(14 h)

Abiotic – Biotic components of ecosystems – Forest ecosystems (Grassland Forest & Desert ecosystems) – Energy flow in an ecosystem – Ecological pyramids – Plant Succession (Hydrarch, Xerarch).

UNIT-4 : FOREST MENSURATION: (40 h)

1. Elementary account of forest mensuration – It's objectives and scope. (4 h)
2. Single tree measurement:- Measurement of diameter and girth – Bark thickness – Measurement of height – Basal Area – Form factor – Age of the tree – stump and Stem analysis. (12 h)
3. Determination of growth of trees:- Definition of increment – Classification of increment (C.A.I, M.A.I, P.A.I) Relationship between C.A.I. and M.A.I. (4 h)
4. Crop Measurement:- Introduction – determination of Diameter of crop, height of crop, age of crop and volume of crop. (6 h)
5. Sampling – Relative advantage sampling – Kinds of sampling. (6 h)
6. Elementary account on volume table – Local volume table – Yield table. (6 h)
7. Volume of felled tree. (2 h)