RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES, MIHINTALE

B.Sc. (Special) Degree in Applied Biology
Fourth year – Semester I Examination - April/May 2015

BIO 4203 – FOREST CONSERVATION

Time : Two (02) hours

Answer four (04) Questions.

1. Briefly describe and compare the structural and functional adaptations to the environment by lowland wet evergreen and dry mixed evergreen forest types of Sri Lanka.

(25 marks)

2. In plantation forest management, 'volume increment' is broadly defined as the amount of wood produced over a given period.

   a) Briefly describe the four main types of volume increment used in forest management.

(08 marks)

   b) Briefly discuss the uses of the volume increment in plantation forest management.

(05 marks)

   c) A plantation company is managing a Teak plantation which was established in 1990 and the final harvest is planning to be taken in year 2015 (rotation 25years). Some data on standing stock and thinning yield are as follows.

Standing stock
Standing stock age 15 - 145 m^3ha^{-1}
Standing stock at age 16 - 155 m^3ha^{-1}
Estimated standing stock at year 2015 - 250 m^3ha^{-1}

Thinning yield
Thinning yield at 5 yr: 10 m^3ha^{-1}
Thinning yield at 10 yr: 15 m^3ha^{-1}
Thinning yield at 15 yr: 20 m^3ha^{-1}
Total thinning yield: 45 m^3ha^{-1}

Using the above data, calculate four main types of volume increment for the particular Teak plantation.

(12 marks)

3. Using appropriate examples briefly describe the final harvesting methods in plantation forest management

(25 marks)

4. Write short notes on following
   a. Stand Basal Area
   b. Tree form factor
   c. Afforestation and Reforestation
   d. Log volume estimation
   e. Thinning and pruning **(05mark each)**

5. Explain the different situations that should give special attention while measuring dbh of trees in the field (use schematic diagrams where necessary).

(25 marks)

6. Describe the basic processing steps of plywood manufacturing based on your observation at Lanka plywood factory.

(25 marks)