2530021

THE UNIVERSITY of York

Degree Examination 2007

ENVIRONMENT DEPARTMENT

BSc Environment, Economics & Ecology
BSc Environmental Science
Part 2

FOREST MANAGEMENT

Time allowed: **two hours**

Answer **ANY TWO** questions

University calculators will be provided

Pay adequate attention to spelling, punctuation and grammar, so that your answers can be readily understood

1. Discuss the history and importance of the use of forestry in agriculture.

2. Discuss possible reasons for differences in diversity in tropical forests at three different spatial scales: continental, regional and local.

3. Outline the management objectives you would choose for a management plan for Tanzanian rain forests. Give reasons for your choices.

4. a) In considering whether or not a forest should be planted in the catchment of a hydro-power project, the engineers needed to calculate the potential energy of the water that would be lost from the plantation by evapotranspiration. The head of water is 190 m above the turbines. Given that the net loss of water over the catchment due to transpiration from the closed canopy forest is estimated to be 474 mm/year, and full loss only occurs at canopy closure after 12 years on a Sitka Spruce 50 year rotation, calculate the potential energy that could be derived from the water lost over the 50 year rotation in Gigajoules per ha. The force of gravity is 9.81 m/s. Show your working. (25% of marks).

   b) What are the benefits of maintaining forests on water catchments? (75% of marks).