

# FSTY 405 — Silviculture II

Midterm, 23rd October 2000

**Name:**

**Student number:**

- Ensure that your name and student number are correctly entered above.
- This is a closed book exam. Calculators are not allowed.
- Time: 45 minutes.
- Pages: 4. Questions: 5, worth 4 marks each.
- Answer in the spaces provided after each question, writing down clearly the intermediate steps.

1. You are given a yield function

$$V = b_0 + b_1t + b_2t^2,$$

with parameters

$i$	$b_i$
0	-50
1	200
2	-1/160

Calculate the MAI at age 40.

2. What are TASS, SYLVER and TIPSYP, and how are they related?

3. The function

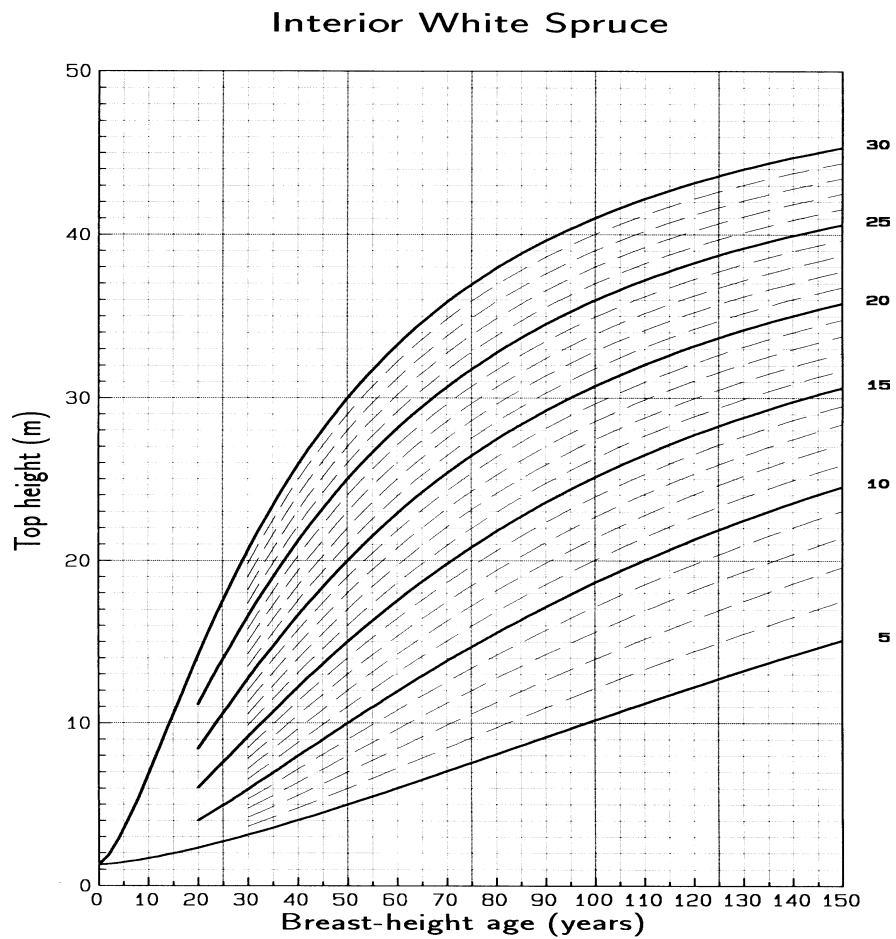
$$\log V = b_0 + b_1 S + b_2/t ,$$

where  $V$  is volume/ha,  $S$  is site index, and  $t$  is age, could represent a

- normal yield table
- transition function
- variable density yield table
- output function
- dynamic model
- none of the above

(Mark clearly your selection)

4. Using the following site index curves



- (a) Estimate the site index for a stand of 15 m top height at age 25
- (b) Predict the top height at 80 years for site index 19.

5. A top height growth model is

$$H = 40(1 - e^{-bt}),$$

with the parameter  $b$  varying between sites. A stand has 20 m at age 25. Estimate the site index (base age 50).

Hint:  $a^{2k} = (a^k)^2$