

University of Ruhuna- Faculty of Technology
Bachelor of Biosystems Technology Honours Degree
Level 4 (Semester II) Examination, November/December 2023
Academic year 2020/2021

Course Unit: BSTE 4222 Forest Resources and Wood Science (Theory)
Duration: One and Half Hours (1.5)

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Instructions

There are five (05) questions.
Question one (01) shall be answered.
You may answer any three (03) from question 02 to 05.

Question 01

- A. What are the main differences between hardwood and soft wood? (5 Marks)
- B. The following questions are based on the characteristics and wood defects. Fill in the blanks using the terms given within brackets. (20 Marks)
- i. _____ timber may be described as coarse, fine, even, or uneven.
 - ii. The wood may be highly or less resistant to penetration. This property of wood is called, _____
 - iii. When the wood is capable of being resistant to actions of chemical agents, biological agents, physical agencies., wood becomes _____
 - iv. A good timber should not fail easily, and it should be able to take loads acting on it. It should be able to resist failures. This property is called _____
 - v. The water _____ of timber depends upon various factors such as moisture content of timber, age of timber, type of timber, type of cut, etc.
 - vi. A good timber should be _____ enough to resist sudden impact loads and vibrations. It is the resistance against sudden shocks and vibrations.
 - vii. _____ is the property of regaining its original shape after deformation causing loads to be removed.
 - viii. _____ of timber is the ease with which it can cut into the required shape.
 - ix. When a wooden board bends along the grain lines, that defect is known as _____

- x. A _____ rubs through the board, usually running lengthwise. This is common when the wood dried out too quickly.

(Permeability, Texture, Strength, Elasticity, Workability, Tough, Bow, Durable Split, Hardness)

Question 02

- A. State three (3) improvements of timber after seasoning. (6 Marks)
- B. Mention two major factors to be controlled during timber seasoning. (4 Marks)
- C. Distinguish between Air drying and Kiln Drying. (15 Marks)

Question 03

- A. List three important silvicultural operations in forest management. (6 Marks)
- B. Mention three issues you might face during the pruning process in a plantation. (6 Marks)
- C. Name three factors that decides the volume of a tree. (3 Marks)
- D. Discuss the advantages and disadvantages of Clear-felling system (15 Marks)

Question 04

- A. What do you understand by the term “Wood Preservation” ? (5 Marks)
- B. There are many methods being used to apply wood preservatives. Discuss four most suitable methods of applying wood preservatives widely used in Sri Lanka. (20 Marks)

Question 05

Wood based industries in Sri Lanka have been sustained for a long period of time. However, at present, this industry faces many issues. Hence the demand for wood-based products and jobs is decreasing. Discuss the reasons for this situation and suggest solutions for each issue. (25 Marks)

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