



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY  
EXAMINATIONS 2018/2019  
ACADEMIC YEAR**

**FOURTH YEAR SECOND SEMESTER**

**SCHOOL OF TOURISM AND NATURAL  
RESOURCE MANAGEMENT**

**BACHELOR OF SCIENCE (FORESTRY)**

**COURSE CODE: FOR 433E**

**COURSE TITLE: SAWMILLING AND  
TIMBER SEASONING**

**DATE: 17<sup>TH</sup> APRIL 2019**

**TIME: 11.00-13.00HRS**

---

**INSTRUCTIONS TO CANDIDATES**

Answer **ALL** questions in section **A** and any other **THREE** in section **B**.

## **SECTION A (25 MARKS)**

**1)** (a) Briefly discuss Sawmilling as a local industry which foster development **3Marks**

(b) Discuss factors that an investor must consider before procurement of raw material for sawmilling

**3Marks**

(c) What are the features that can make Mill size to vary?

**3Marks**

(d) Define the following terms as used in sawmilling

(i) Physical wood supply

(ii) Economic wood supply

**4Marks**

**2)** (a) Discuss the disadvantages of determining the quantity of logs by weight.

**3Marks**

(b) Define the criteria used in sorting logs in the log-yard.

**3Marks**

(c) Discuss the factors that affect cost of raw materials for sawmilling

**3 Marks**

(d) Why is it important to debark logs before sawing?

**3Marks**

## **SECTION B (45 MARKS)**

**3)** (a) Name the three main saw types, citing advantages and disadvantages, illustrations and their uses

**(9Marks)**

(b) Discuss the factors that affect volume yield of sawn timber **(3Marks)**

(c) Discuss any four wood conversion systems using illustration where possible

**(3Marks)**

**4)** (a) Describe and illustrate the following terms citing their importance in sawmilling

(i) Kerf

(ii) Saw setting

(iii) Pitch

**(6Marks)**

(b) What is the effect of heat/friction between the saw and log? **(3Marks)**

(c) Give any three methods of saw densification.

**(3Marks)**

(d) Discuss the factors that determine the amount of saw tensioning

**(3 Marks)**

**5) (a)** What are the advantages of kiln drying of timber?

**(5Marks)**

(b) Write short notes on stacking/piling of timber for drying and illustrate

**(4Marks)**

(c) Discuss the main features of wood drying kiln and their importance

**(6 Marks)**

**6) (a)** Discuss the following pressure treatment processes

(i) Full cell process

(ii) Double vacuum process

**(@3Marks**

**=6)**

(b) What are the advantages of glulam products over solid wood?**(3Marks)**

(c) Briefly discuss factors that affect natural durability of wood.

**(3Marks)**

(d) State the effects of decay on wood physical properties.

**(3marks)**

**//END**