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

\textbf{(3 Marks)}

5) (a) What are the advantages of kiln drying of timber? \textbf{(5 Marks)}
(b) Write short notes on stacking/piling of timber for drying and illustrate
\textbf{(4 Marks)}
(c) Discuss the main features of wood drying kiln and their importance
\textbf{(6 Marks)}

6) (a) Discuss the following pressure treatment processes
(i) Full cell process
(ii) Double vacuum process \textbf{(@3 Marks =6)}
(b) What are the advantages of glulam products over solid wood? \textbf{(3 Marks)}
(c) Briefly discuss factors that affect natural durability of wood. \textbf{(3 Marks)}
(d) State the effects of decay on wood physical properties. \textbf{(3 marks)}

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