

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Tech. (Agril. Engg.)

Semester : IV (New)	Term : II	Academic Year : 2015-16
Course No. : FS 242	Title : Building Materials	
Credits : 2 (1+1)	Time : 14.00 to 16.00	Total Marks : 40
Day & Date : Tuesday, 03.05.2016		

- Note :
1. Solve ANY EIGHT questions from SECTION "A".
 2. All questions from SECTION "B" are compulsory.
 3. All questions carry equal marks.
 4. Draw neat diagrams wherever necessary.

SECTION "A"

- Q.1 a) Define stone quarrying. What are the aspects considered while selection of site for a quarry of stones?
b) Explain in brief the qualities of a good building stone.
- Q.2 a) Enlist the steps involved in manufacturing process of bricks. Describe the burning process in clamps.
b) What are the qualities of a good bricks which are used for construction of important structures?
- Q.3 a) Describe the role of important compounds in hardening formed during the setting action of cement.
b) Enlist the varieties of cement. Explain in detail white cement.
- Q.4 a) Explain the functions of sand when used in mortar and concrete.
b) What are the uses of mortar in agricultural structures?
- Q.5 a) What are the advantages and limitations of slump test used for measurement of workability of concrete mixture?
b) What are the advantages of vibrators, over hand consolidation methods that are used for consolidation of a concrete?
- Q.6 a) What are the requirements of a good preservative for increasing the life of timber structures?
b) Explain the characteristics or qualities of a good timber.
- Q.7 a) Enlist the engineering properties of plastics and uses in agricultural structures?
b) Give detail classification of plastics considering different engineering aspects
- Q.8 a) Describe the characteristics of a good tile used for construction.
b) Explain the various types of roof tiles manufactured in India.

(P. T. O.)

Q.9 Estimate the yield of concrete per bag of cement for a concrete mix of proportion (1:2:4) by absolute volume method.

Q.10 a) Describe the properties of rubber.

b) Explain the process of obtaining natural rubber from rubber trees.

SECTION "B"

Q.11 State True or False.

1) In mortar, binding material is also referred as matrix.

2) Log is the trunk of tree obtained after removal of branches.

3) Elastomers are soft and elastic materials with a low modulus of elasticity.

4) A brick moulded with a rounded angle is termed as cow nose.

Q.12 Fill in the blanks.

1) The diameter of timber pole does not exceed _____.

2) The presence of 5% to 8% moisture in sand increases the volume of sand as much as _____.

3) Chip mark in timber is type of defect occurred due to _____.

4) The term _____ is used to describe the ease or difficulty with which the concrete is handled, transported and placed between the forms with minimum loss of homogeneity.

