

AMAR-02 BUILDING MATERIALS-I

UNIT-1 SOILS

- 1.1 Fundamentals of Soil Science,
- 1.2 Types of soils, Principles of Soil Stabilization,
- 1.3 Characteristics of core, Types of Stabilizers,
- 1.4 Requirements and Types of mudwall building and surface protection.

UNIT-2 LIME

- 2.1 Types of lime,
- 2.2 Classification of lime,
- 2.3 Comparison between fat lime and hydraulic lime,
- 2.4 Manufacturing process slaking, Hardening
- 2.5 Testing and Storage, Lime putty,
- 2.6 Precautions in handling and uses of lime.

UNIT-3 BAMBOO AND OTHER MATERIALS

- 3.1 Bamboo- Bamboo as plant classification, species, geographical distribution,
- 3.2 Anatomy of Bamboo,
- 3.3 Properties, strength, processing, harvesting, and working of Bamboo tools
- 3.4 Treatment and preservation of Bamboo and uses of Bamboo.
- 3.5 Cane, gate, coir, coconut
- 3.6 Growth, Form, Shape, Leaves, Flowering, Propagation Roofing materials
- 3.7 Thatch, grass, Bamboo, reeds- Basics- Case studies and applications.

UNIT-4 STRAW BALES

- 4.1 Straw as a building material-physical aspects
- 4.2 Basics, Fire, moisture, insects and pests proof.
- 4.3 Plastering straw bale walls, straw bale roof.

UNIT-5 ROCKS AND STONES

- 5.1 Classification of rocks, Sources, Seasoning,
- 5.2 Quarrying of stones, Dressing,
- 5.3 Characteristics of stones, testing of stones, Common building stones and their uses.
- 5.4 Masonary and paving. Stone veneering, preservation of stones
- 5.5 Deterioration of stones, Durability, Preservation,
- 5.6 Selection of stones, artificial stones.

References Books:

1. Duggal S.K., "Building materials", Oxford and IBH publishing Co, put, Ltd, New Delhi, 1997.
2. Spencke R. F. and Cook D.J., "Building Materials in Developing Countries", John Wiley and sons 1983.