

OBJECTIVES:

To have an understanding of the properties, characteristics, strength, manufacture, processing and application of materials such as brick and other clay products.

To inform the properties and characteristics of timber, its conversion, preservation and uses.

To inform of the various market forms of timber, their production, properties and application in the building industry.

UNIT I BRICKS 10

Classification of bricks including bricks substitutes like fly ash bricks, characteristics, ingredients of bricks – Manufacture of bricks – Forms of bricks – Testing of bricks – Storing – Light weight bricks – Case studies and application. Light weight bricks.

UNIT II CLAY PRODUCTS 12

Manufacture of burnt clay bricks, paving bricks, hollow bricks – terracotta, porcelain, stoneware, earthenware Glazing and their uses – Glazed ceramic tiles, Fully vitrified tiles, Ceramic sanitary appliances, Stoneware pipes and fittings.

Roofing materials - Manufacture of Mangalore tiles, pot tiles, pan tiles – Case studies and application.

UNIT III TIMBER 8

Classification of trees, structure of trees, Defects in timber, Storage of timber, Uses of timber, Characteristics, seasoning of timber, Defects and diseases, Decay of timber, Preservation, Fire resistance, Conservation of timber.

UNIT IV TIMBER PRODUCTS 8

Market forms of timber, Industrial timber, - Veneers and Veneer Plywood's, Particle board, Hard board, Fibre board, Block board and Lamin boards, Laminates, advantages and Blackboard uses.

UNIT V PAINTING AND VARNISHING IN TIMBER 7

Composition, characteristics, preparation, Primer, Painting different surfaces. Enamels, Paint, Varnishing – types of varnishing Miscellaneous paints, defects, uses and cost of materials.

TOTAL: 45 PERIODS

OUTCOMES

Students get sensitized about the use of Brick, Timber, Timber products, painting and application in building industry students learn about making and manufacturing process of brick, properties, methods of preservation and treatment, methods of construction and uses of brick, timber, timber products and constituents of paints, preparation and surface application of paints.

REQUIRED READINGS

Rangwala S. C., "Engineering Materials", Charotar, Publishing House, Anand-388 001, India, 2007.

Duggal S.K., "Building materials", New Age International, New Delhi, 2009.

Reshpande B., "Materials and Construction", Oriental Watchman Publishing House, Poona-2.

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Varghese P.C., "Building Materials", Prentice Hall of India put Ltd, New Delhi 110001, 2005.

Spence R.J. and Cook S.J., "Building materials in developing countries", John Wiley and sons 1983.

