

11.2.2 Physical Classification

This classification is based on general structure of rocks. According to this classification, the rocks are of the following three types:

- (i) Stratified rocks;
 - (ii) Unstratified rocks; and
 - (iii) Foliated rocks
- (i) **Stratified rocks:** These rocks possess planes of stratification or cleavage and such rocks can easily be split up along these planes. e.g., *Sedimentary rocks, Sandstone, limestone, slates and marbles.*
- (ii) **Unstratified rocks:** These rocks are unstratified. The structure may be crystalline granular or compact granular. The igneous rocks of volcanic agency and sedimentary rocks affected by movements of the earth are of this type of rocks. e.g., *granite, basalt etc.*
- (iii) **Foliated rocks:** These rocks have a tendency to be split up in a definite direction only. The foliated structure is very common in case of metamorphic rocks. e.g., *Gneiss*

11.2.3 Chemical classification

This classification is known as the scientific or engineering classification and according to this classification, the rocks are of the following three types:

- (i) Silicious rocks;
 - (ii) Argillaceous rocks; and
 - (iii) Calcareous rocks;
- (i) **Silicious rocks:** In these rocks, the silica predominates. The rocks are hard and durable. They are not easily affected by the weathering agencies. The silica however in combination with weaker minerals may disintegrate easily. It is therefore necessary that these rocks should contain maximum amount of free silica for making them hard and durable. The granites, quartzites, etc. are examples of silicious rocks.
- (ii) **Argillaceous rocks:** In these rocks, the argil or clay predominates. Such rocks may be dense and compact. These stones are hard and durable but brittle. The slates, laterites, etc. are examples of the Argillaceous rocks.

- (iii) **Calcareous rocks:** In these rocks, the calcium carbonate predominates. The durability of these rocks will depend upon the constituents present in the surrounding atmosphere. The limestones, marbles, etc. are examples of calcareous rocks.

11.3 STONE QUARRYING

The process of taking out stones from natural rock beds is known as the quarrying. The term quarry is used to indicate the exposed surface of natural rocks. The stones, thus obtained, are used for various engineering purposes.

11.4 CLAY PRODUCTS

11.4.1 Tiles

The tiles may be defined as thin slabs of brick which are burnt in kiln. They are thinner than bricks. These are broadly classified in two ways which are mentioned here in below.

- (i) **Common tiles:** These tiles have different shapes and sizes. They are mainly used for paving, flooring and roofing.
- (ii) **Encaustic tiles:** These tiles are used for decorative purposes in floors, walls, ceilings and roofs.

11.4.2 Terra-cotta

The terra means earth and cotta means baked. Hence the terra-cotta means the baked earth. It is thus a type of earthenware or porous pottery made from local clays and glazed with glazes containing galena.

Advantages of terra-cotta

- (i) It is strong and durable material.
- (ii) It is fireproof and can therefore be conveniently used with RCC work.
- (iii) It is light in weight.
- (iv) It is not affected by atmospheric agencies and acids and is capable of withstanding weathering actions better than most kinds of stone.

Uses of terra-cotta

The hollow terra-cotta blocks are used for various ornamental purposes such as facing work, arches, cornices, casing for columns, etc.