FAQ's

1. What are cements

• Cements in a general sense are adhesive and cohesive materials which are capable of bonding together particles of solid matter into a compact durable mass

• Cements used in construction industry may be classified as hydraulic and non hydraulic.

• The latter does not set and harden in water such as non-hydraulic lime or which are unstable in water, e g. Plaster of Paris. The hydraulic cement set and hardens in water and gives a product which is stable. Portland cement is one such.

2. What is cement composed of

• The three constituents of hydraulic cements are lime, silica and alumina. In addition, most cements contain small proportions of iron oxide, magnesia, sulphur trioxide and alkalis. There has been a change in the composition of Portland cement over the years, mainly reflected in the increase in lime content and in a slight decrease in silica content.

• Another raw material is blast-furnace slag, which consists mainly of lime, silica, and alumina and is mixed with a calcareous material of high lime content.

• The proportions of the above compounds vary in the various Portland cements.

3. What are properties of a good cement

Although desirable cement properties may vary depending on the type of construction, generally good cement possesses following properties

• Provides strength to masonry.
• Stiffens or hardens early.
• Possesses good plasticity.
• An excellent building material.
• Easily workable.
• Good moisture-resistant.

4. What are some uses of cement

• Cements may be used alone (i.e., "neat," as grouting materials) but the normal use is in mortar and concrete in which the cement is mixed with inert material known as aggregate.
• Mortar is cement mixed with sand or crushed stone. Concrete is a mixture of cement, sand or other fine aggregate, and a coarse
• Mortars are used for binding bricks, blocks, and stone in walls or as surface renderings.
• Concrete is used for a large variety of constructional purposes.

5. Briefly describe the manufacture of cement

Cement is usually manufactured by two processes:
• Wet process
• Dry process

These two processes differ in operation but fundamentals of both these processes are same. There are five stages in manufacturing of cement by wet process:
• Crushing and grinding of raw material
• Mixing the material in proportion
• Heating the prepared mixture in rotary kiln
• Grinding the heated product known as clinker
• Mixing and grinding of cement clinker with gypsum