1. **Qualities of good bricks OR Requirement of good quality Bricks OR Properties of good quality bricks:**
    1. Bricks should be well-burnt. Should have copper-red colour. Should not be yellowish or blackish.
    2. Should be of standard size and should be uniform in size and shape. Variation in size should be within permissible limits.
    3. The edges should be sharp and surfaces should be flat and not curved.
    4. They should give metallic ringing sound when struck with each other. Means, they should be sound.
    5. Bricks should be free from organic matter, salts and pebbles (gravels-□□□□□□).
    6. Should not break when dropped flat from 1 meter height on hard ground.
    7. Should not break when dropped upright from 2 meters height on hard ground.
    8. Water absorption should not be more than 20% of dry weight.
    9. Compressive strength should not be less than 10.5 N/mm^2
    10. When it is broken or cut across, it should show uniform texture free of cavities or loose lumps.

2. **Grades of cement concrete:**
    1. The cement concrete is grade is based on its 28-day compressive strength in N/mm^2
    2. For example, M20 means Mix having compressive strength of 20 N/mm^2 (MPa)
    3. Common (usual) mix proportions for different grades are as follows:
    4. M15 – 1:2:4
    5. M20 – 1:1.5:3 and so on.
    6. The mix proportion means parts of Cement: Sand (Fine Aggregates): Coarse Aggerates,
    7. or C:S:A by weight or volume.
    8. For ordinary concrete works, the grades used is M10, M15, or M20
    9. For standard concrete works M25 to M60 grade is used.
    10. Grade of high strength concrete may be M65 to M100.

3. **Properties of good structural timber:**
    1. Has uniform dark colour.
    2. Freshly cut surface of the timber gives sweet smell.
    3. It is heavy. Density is high.
    4. Has narrow spaced and regular annular rings.
    5. Is durable.
    6. Has high elasticity and toughness.
    7. Is fire resistant.
    8. Is free from defects like cracks and knots (□□□□)
    9. Has good bending, shear and compressive strength.
    10. Easily workable, means, easy to cut, chip off, and make joints.

4. **Forms (Products) of Industrial timber:**
    1. Veneers – peeled off slices of timber
    2. Plywood – Odd number of veneers (3, 5 or 7 nos.) bonded together with adhesive (glue)
    3. Fiber board – Fibers of wood made from chippings and saw-mill waste is glued together in form of board
    4. Block boards – Made by sandwiching and gluing narrow strips or blocks between veneers.

5. Batten board – Thick and wide Battens are glued together and sandwiched and glued between veneers.
6. Lamin boards – Thin Lamins of wood are glued together and sandwiched and glued between veneers.
7. Particle boards – Particles of wood mixed with glue and resins are pressed to form particle boards.
8. Impreg and compreg timbers – They are made by treating veneers with resins or such chemicals and heat-pressure-curing etc. processes.