FAQs

1. What is no fines concrete

- No-Fines Concrete is a method of producing light concrete by **omitting the fines** from conventional concrete.
- No-fines concrete as the term implies, is a kind of concrete from which the fine aggregate fraction has been omitted.
- This concrete is made up of **only coarse aggregate, cement and water.**
- Very often only single sized coarse aggregate, of size passing through 20 mm retained on 10 mm is used.
- No-fines concrete is becoming popular because of some of the advantages it possesses over the conventional concrete. The single sized aggregates make a good no-fines concrete, which in addition to having large voids and hence **light in weight**, also offers **architecturally attractive look.**

2. Discuss properties of No fines Concrete

- **It does not segregate**
- The density varies with the grading of aggregates
- Water cement ratio of this concrete varies from 0.38 to 0.52
- Its **strength increases with time**
- There is very little cohesiveness, necessitating **longer duration of form work removal.**
- Shrinkage of this concrete is lower than normal concrete and its thermal expansion is about 0.6 to 0.8 of normal concrete.

3. Some advantages of No fines Concrete

- Production of this type of concrete results in saving of material requirement. Due to absence of fine aggregate or sand, less amount of cement is needed to produce 1 m^3 of no fines concrete.
- The density of this type of concrete is about 25 to 30% less than the conventional concrete. Therefore it exerts less pressure on formwork
- Segregation property of this type of concrete is very low. Therefore it can be dropped from considerable height without the danger of segregation.
- No special equipment is needed for compaction of this concrete. Full compaction can be achieved by simple rodding operation.

4. **What is Fibre reinforced concrete**
   - Plain Portland cement concrete is a brittle material. The **strength of concrete in tension is much lower than in compression**. A growing tensile crack in plain concrete can very soon lead to failure. In the presence of reinforcement, the tensile load is transferred to the steel.

   - An alternative to increasing the load carrying capacity of concrete in tension is the **addition of fibers**. Well-dispersed fibers in the concrete act to bridge the cracks that develop in concrete. The incorporation of fibers in a cement matrix leads to an **increase in the toughness and tensile strength**, and an improvement in the cracking and deformation characteristics of the resultant concrete

5. **Write about advantages of FRC**

   - Improve mix cohesion, improving pump ability over long distances
   - Improve freeze-thaw resistance
   - Improve resistance to explosive spilling in case of a severe fire
   - Improve impact resistance– and abrasion–resistance
   - Increase resistance to plastic shrinkage during curing
   - Improve structural strength
   - Reduce steel reinforcement requirements
   - Improve ductility
   - Reduce crack widths and control the crack widths tightly, thus improving durability