

# Quality Control Engineer Interview Question

## **Question No. 01**

### **What are the essential elements of Concrete placement?**

⇒ The maximum height of the concrete drop is less than or equal to 1.5 meters.

Segregation must be prevented by ensuring the transit mixture is approved, has an operating revolution counter, not adding water after batching, and concrete is placed in such a manner to prevent segregation (only shovels can be used to move concrete around inside the forms no raking allowed).

Vibrators should not be used for that purpose.

## **Question No. 02**

### **How will trucks be checked on-site when receiving concrete?**

⇒ Here are the ways to check trucks on site:

A. Revolution Counter

B. Ticket Checked for Concrete Batching time and Slump Value at the plant.

C. Slump Test.

D. Temperature Test (32 C maximum @ Site).

E. Assure Lab Technician is present at the site and performs testing.

F. 6 Cubes or 4 Cylinders should be taken per 50cum or recommended in the project specification.

### **Question No. 03**

#### **What are allowable slumps?**

⇒ In the case of a dry sample, the slump will be in the range of 25-50 mm. But in the case of wet concrete, the slump may vary from **150-175 mm**. So the value of slump is specifically mentioned along the mix design and thus it should be checked as per the local location.

#### **Recommended slumps:**

##### **Reinforced foundation walls and footings:**

- a. Maximum Slump 75mm
- b. Minimum Slump 25mm

##### **Plain footings, caissons, and substructure walls:**

- a. Maximum Slump 75mm
- b. Minimum Slump 25mm

##### **Beams and reinforced walls:**

- a. Maximum Slump 100mm
- b. Minimum Slump 25mm

##### **Building columns:**

- a. Maximum Slump 100mm
- b. Minimum Slump 25mm

##### **Pavements and slabs:**

- a. Maximum Slump 75mm
- b. Minimum Slump 25 mm

##### **Mass Concrete Mix:**

- a. Maximum Slump 75mm
- b. Minimum Slump 25mm

#### **Question No. 04**

##### **What is a plasticizer?**

⇒ Usually applied at a low water-cement ratio concrete to make it workable. What is the maximum temperature of concrete that can be poured into a concrete structure? 32 Degrees C. Min and Max atmospheric (ambient) temperature before paving? Min is 5 Degrees C in cold weather and 45 degrees C max for hot weather.

#### **Question No. 05**

##### **Types of Curing?**

⇒ Water Curing – as in ponding, spraying, wet sand, and wet earth Membrane Curing – as in plastic film, liquid membrane curing compound, and reinforced paper Steam Curing.

#### **Question No. 06**

##### **When will you apply the curing of the concrete?**

⇒ After the concrete has initially set (35 to 40 minutes is the initial setting time of concrete)

#### **Question No. 07**

##### **How many times do you apply the curing membrane?**

⇒ At least two times. The second application is perpendicular to the first and applied after the first application has been set.

#### **Question No. 08**

##### **Within how many hours should the concrete mix be discharged after leaving the batching plant or after all the aggregates, cement, and water are in the mixer?**

⇒ Within one hour if the mixer is agitated (Also depends on the design mix) And Within 30 minutes if the mixer is non-agitated.

**Question No. 09**

**What is the mixing time of a stationary or central batching plant (concrete)?**

⇒ 50 to 90 seconds

**Question No. 10**

**What is the agitating speed of the mixer?**

⇒ 2 to 6 revolutions per minute (RPM)

**Question No. 11**

**What is the mixing speed of the mixer?**

⇒ 6 to 18 rpm

**Question No. 12**

**What is concrete fatigue?**

⇒ It is the weakening of a material caused by repeated loads.

**Question No. 13**

**What is creep?**

⇒ It is deformation due to the sustained load.

**Question No. 14**

**How would you know if the concrete has gained its initial set?**

⇒ If there is no more water seen (brightness) on the surface of the concrete, or if there is no water on the surface of the concrete.

**Question No. 15**

**If agitated concrete is discharged after more than one hour, what will happen?**

⇒ The concrete is over-mixed, becomes hot, and the strength is reduced

**Question No. 16**

**How many layers are in the concrete cube?**

⇒ Concrete Cube is cast in 3 layers.

**Question No. 17**

**How many strokes are done in one layer in a concrete cube?**

⇒ 35 Strokes in one layer.

**Question No. 18**

**What is the size of rode used in concrete cube casting and slump test?**

⇒ Dia – 16mm and 600mm in length.

**Question No. 19**

**What is the size of a concrete cube?**

⇒ 150mm X 150mm X 150mm.

**Question No. 20**

**What is the size of the slump cones?**

⇒ Height – 30cm, Top of Cone – 10cm, and Bottom of cone – 20cm.

**Question No. 21**

**How many layers are in the slump test??**

⇒ 3 Layers in ASTM and BS but 4 Layers in Indian standard.

**Question No. 22**

**How many strokes are done in one layer in a slump test?**

⇒ 25 Strokes

**Question No. 23**

**Min and Maximum temperature of concrete at the site before pouring?**

⇒ Min Concrete temp is 10°, and Max is 32°C

**Question No. 24**

**What is the purpose of the slump test?**

⇒ To determine the consistency of the workability of the concrete mix and to check for the required slumps.

**Question No. 25**

**How many layers are in the slump test??**

⇒ 3 Layers in ASTM and BS but 4 Layers in Indian standard.

**Question No. 26**

**What is the initial setting time of Concrete Mix?**

⇒ 35 to 40 minutes.