

**Shantilal Shah Engineering College- Bhavnagar**

**Applied Mechanics Department**

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**CONCRETE TECHNOLOGY (2140608)**

**B.E. 4th Semester Civil Engineering**

**Tutorial: 1 : Concrete Making Materials:**

Q:-1 Enlist and explain function of each Bogue's compound.

Q:-2 Explain " heat of hydration".

Q:-3 Explain role of aggregate in concrete.

Q:-4 Explain importance of grading of aggregate.

Q:-5 List any three air-entrained agents. Give any five functions.

Q:-6 Explain initial and final setting time test of cement.

Q:-7 What is admixture? Enlist atleast four admixtures with their use.

Q:-8 Write short note on Bogue's compounds.

**Tutorial: 2 : Fresh Concrete :**

Q:-1 Explain slump test for the measurement of workability of concrete.

Q:-2 What is curing? Explain membrane curing.

Q:-3 Define segregation of concrete. Explain factors affecting it.

Q:-4 Define workability and explain compaction factor test.

**Tutorial: 3 : Hardened Concrete :**

Q:-1 Describe the methods of testing of hardened concrete.

Q:-2 Discuss effect of age of concrete on its strength.

Q:-3 Explain water / cement ratio and its strength on concrete.

Q:-4 State factors affecting compressive strength of concrete and explain any one.

#### **Tutorial: 4 : Durability and Permeability of Concrete :**

Q:-1 Write short note on : (1) Durability of concrete (2) Permeability of concrete

Q:-2 Write short note on : (1) Sulphate attack (2) Acid attack

Q:-3 State causes and precautions for of distress in structures.

Q:-4 What are the factors affecting permeability and durability.

#### **Tutorial: 5 : Concrete Mix Design :**

Q:-1 Distinguish between nominal mix and design mix.

Q:-2 Draw flow chart of mix design steps for I.S. method.

Q:-3 What are methods of concrete mix design ? Explain any one.

#### **Tutorial: 6 : Special Concrete and Concreting Method :**

Q:-1 Describe polymer concrete and its applications.

Q:-2 What is RMC ? What are its advantages?

Q:-3 Write short note on cold weathering concrete and Hot weathering concrete.

**Tutorial: 7 : Miscellaneous Topics :**

Q:-1 Explain rebound hammer test.

Q:-2 Explain micro cracking of concrete.