



**All assignments of Concrete Technology [2920604]  
PDDC – 2<sup>nd</sup> Semester**

**Assignment - 1**

#	Questions
1	Explain Historical background of Cement in Detail.
2	Explain hydration process of cement and write importance of Bogue's compounds.
3	Write procedure to test cement for following: (i) Soundness test (iii) Setting time
4	Explain function of aggregates in concrete.
5	What do you understand by grading of aggregate? Name various types of grading and how does it affect the concrete?
6	Describe effect of size, shape and texture of aggregate on concrete.
7	Explain any one test on aggregates in detail

**Assignment - 2**

#	Questions
1	List types of cements & its uses.
2	Explain importance of Chemical Admixtures in Concrete.
3	Define the following: Gel water (a) Bound water (b) Maturity of concrete (c) Gel –space ratio (d) Creep Bulk Density (e) Specific gravity
4	Define Admixtures Types, Need & Benefits.
5	Explain Water requirements in Concrete Mix & Limiting Impurities



### **Assignment - 3**

	Questions
1	Define workability. State different methods of it. Describe any one in detail.
2	Write Detail notes on Methods of mixing, transportation & placing of concrete.
3	Define Segregation and Bleeding
4	Give detail definition of Stiffening, re-tempering
5	Why do we need to cure the concrete? Explain various methods of curing of concrete.

### **Assignment - 4**

	Questions
1	Define Durability & Its significance.
2	Explain Shrinkage & factors affecting Shrinkage
3	What is permeability of concrete? Enlist factors affecting permeability of concrete. Explain anyone in detail.
4	Explain aspects of Elasticity & Creep of hardened Concrete.
5	List Destructive, Semi destructive & Non Destructive test of Concrete

### **Assignment - 5**

	Questions
1	Define carbonation of concrete.
2	What are the causes of carbonation?
3	Describe mechanism of cracking in concrete.



### **Assignment - 6**

	Questions
1	Write short note on acid attack, sulphate attack & chloride attack.
2	Explain process of Alkali-Aggregate reaction.
3	Write detail note on Concrete for Hot Liquid.
4	What is effect of sea water on concrete & How to achieve good durability against it?

### **Assignment - 7**

	Questions
1	Difference between High Strength Concrete & High performance concrete.
2	Describe Fiber reinforced concrete.
3	Write shot note on mass concrete.
4	Define Light weight concrete, Heavy Concrete & Precast Concrete.
5	Give uses of various types of concrete for different types of structures with its advantages.

### **Assignment - 8**

	Questions
1	Where pumped concrete is used? What precautions are required for pumping the concrete?
2	What is ready mixed concrete? Write merit & demerits of RMC.
3	Write detail note on Hot & Cold Weather concreting.
4	Explain about Underwater concreting & Shotcrete



### **Assignment - 9**

	Questions
1	Design Concrete mix of M60 as per IS 10262:2019, Assume suitable data where required.

### **Assignment - 10**

	Questions
1	What causes distress in structure or on a structural element?
2	How damage assessment is carries out in a Commercial or Residential Building?
3	Write detail note on repairing techniques.
4	Give detail list of available repairing materials & its benefits.