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**B. TECH**  
**(SEM-V) THEORY EXAMINATION 2020-21**  
**CONCRETE TECHNOLOGY**

**Time: 3 Hours****Total Marks: 100****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****2 x 10 = 20**

Qno.	Question	Marks	CO
a.	Enlist the Bogue's composition of cement.	2	1
b.	What are supplementary cementitious materials.	2	2
c.	What are the different methods of curing?	2	3
d.	What is the Rheological representation of Creep?	2	4
e.	What is ferro-cement?	2	5
f.	What do you understand by Soundness of aggregate?	2	1
g.	Write down the advantages of accelerators.	2	2
h.	Define creep of concrete?	2	3
i.	Give the statement of Abram's law	2	4
j.	Compare recycled aggregate and natural aggregate.	2	5

**SECTION B****2. Attempt any three of the following:****3x10=30**

Qno.	Question	Marks	CO
a.	Write down the names of important compounds of cement and explain the influence of each on the properties of cement.	10	1
b.	Describe the mechanism of action of plasticizers with neat sketch. Mention any three Super plasticizers.	10	2
c.	Describe in detail Vee-Bee consistometer test to determine workability of concrete.	10	3
d.	Write the factors to be considered for a mix design.	10	4
e.	What is the need to study fiber reinforced concrete and explain briefly the factors effecting properties of fiber reinforced concrete?	10	5

**SECTION C****3. Attempt any one part of the following:****1x10=10**

a.	Explain manufacturing processes of cement with neat diagram. Give comparison between wet and dry process of manufacturing.	10	1
b.	Briefly describe the physical, mechanical, and thermal properties of aggregates in concrete.	10	1

**4. Attempt any one part of the following:****1x10=10**

a.	Discuss the fly ash in concrete with their use. Also give advantage and disadvantage of fly ash.	10	2
b.	What is admixture? Why is it used with concrete? Also give its type.	10	2

**5. Attempt any one part of the following:****1x10=10**

a.	Write about segregation and its causes. How reduce segregation of concrete?	10	3
b.	Define durability of concrete. Also discuss the factors affecting concrete durability.	10	3

**6. Attempt any one part of the following:****1x10=10**

a.	Explain step by step the IS method of mix proportioning.	10	4
b.	Describe the effect of rheological properties on different types of concrete.	10	4

**7. Attempt any one part of the following:****1x10=10**

a.	What is self-compacting concrete? What are the properties, advantages, and disadvantages of self-compacting concrete?	10	5
b.	Difference between High performance concrete and high-density concrete.	10	5