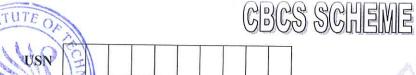
WGRORE



17CV/CT44

Fourth Semester B.E. Degree Examination, Dec.2019/Jan.2020 **Concrete Technology**

Time: 3 hrs.

1

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module. 2. IS - 10262 mix design code is allowed.

Module-1

2	Explain the man	ufacturing pr	ones of ann	nout less sesses a	The state of		0	222
и.	Explain the man	idiacidi ilig pi	ocess of cen	nent by wet p	process i	using 1	low chart.	(10 Marks)
b.	Name chemical	and mineral	admixtures	and explain	flyash	and M	etakaolin	admixtures in
	detail.							(10 Marks)

2	a.	Define Hydrating Cement. With schematic representation, explain structure	of hydrated
		cement paste.	(08 Marks)
	b.	Name the alternatives of River sand and explain the properties of $M - S$ and.	(06 Marks)
	c.	Explain the importance of Aggregate in concrete.	(06 Marks)

Module-2

3	a.	Explain two laboratory tests for measurement of workability.	(10 Marks)
	b.	Explain the manufacturing process of concrete.	(10 Marks)

OR

	Explain the methods of curing.	(10 Marks)
b.	Describe the effect of heat of hydration during mass concerting at project sites.	(05 Marks)
c.	Explain Segregation and Bleeding.	(05 Marks)

5	a.	Explain the factors influence the strength of Hardened concrete.	(06 Marks)
	b.	What are the factors which affects the creep?	(04 Marks)
	c.	Explain the types of Shrinkage in concrete.	(10 Marks)

OR

6	a.	What are the Internal and External factors influence the durability of concrete?	(12 Marks)
		Briefly explain the Rebound hammer test and Ultrasonic pulse velocity test	(08 Monks)
	0.	DIVITY CADIGITI THE ACTION HE HANDING TEST AND UNITAXONE DITIES VETOCITY FACT	IIIW Manie

Module-4

,	a.	Explain the concept of thix design.	(06 Marks)
	b.	List out the data required for mix proportioning.	(04 Marks)
		Write the steps involved in the methods of mix design.	(10 Marks)

OR

(04 Marks) (06 Marks)

Design a concrete mix for M₃₅ grade using fly ash. Other data are given below: Type of cement OPC 43 grade Type of flyash F type Maximum size of aggregate 20 mm 320kg/m d. Minimum cement content 0.45 e. Maximum water cement ratio 100 mm slump Workability Exposure condition Severe (RCC) Pumping Method of placing concrete Degree of supervision good Super plasticizer Chemical admixture j. 3.15 k. Specific gravity of cement Specific gravity of fly ash 2.2 1. 2.78 m. Specific gravity of coarse aggregate Specific gravity of fine aggregate 2,70 o. Water absorption : 0.5% i) Coarse aggregate Nil ii) Fine aggregate p. Free surface moisture i) Coarse aggregate Nil 1.5% ii) Fine aggregate q. Grading of coarse aggregate is confirming to table 2 of IS 383 and grading of fine aggregate (20 Marks) is falling Zone I. Module-5 Explain the production of Ready Mixed concrete. (12 Marks) What is Self Compacting Concrete? Explain the materials required for self compacting (08 Marks) concrete used. OR Explain the types of fibres used in Fiber Reinforced Concrete and its application. 10 a. (10 Marks)

b. Explain properties of light weight concrete.

List out advantages of Light weight concrete.