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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth semester B.Tech degree examinations (S) September 2020

Course Code: CE361

Course Name: ADVANCED CONCRETE TECHNOLOGY

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks. Marks

1	a)	Explain the products of hydration.	(5)
	b)	List any3 characteristics of concrete aggregate and discuss their influence on properties of concrete.	(6)
	c)	Write a short note on blended cements.	(4)
2	a)	What are the objectives of curing of concrete? Explain any 2 methods of curing of concrete.	(6)
	b)	List the various methods for determining workability. Explain in detail any one method used in field to determine workability.	(5)
	c)	Explain segregation in concrete.	(4)
3	a)	Explain bulking and soundness of aggregate.	(5)
	b)	How is the grade of cement determined? Explain.	(4)
	c)	Write short notes on i) air entraining admixtures ii) plasticisers	(6)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	Explain maturity concept of concrete.	(3)
	b)	Explain the factors affecting creep.	(6)
	c)	Explain plastic shrinkage and drying shrinkage.	(6)
5	a)	Differentiate between design mix and nominal mix.	(3)
	b)	Explain the influence of silica fume on fresh and hardened concrete.	(6)
	c)	Explain the advantages of using mineral admixtures in concrete.	(6)
6	a)	Discuss the step by step procedure for mix design of ACI method.	(6)
	b)	Describe the elastic properties of concrete.	(6)
	c)	Explain effect of maximum size of aggregate on strength.	(3)

PART C

Answer any two full questions, each carries 20 marks.

7	a)	Explain different methods of controlling sulphate attack.	(6)
	b)	Explain any 2 non destructive tests of concrete.	(10)
	c)	Describe alkali aggregate reaction.	(4)
8	a)	Explain factors affecting the properties of fibre reinforced concrete.	(6)
	b)	Explain underwater concrete and sprayed concrete.	(8)
	c)	Write short note on light weight concrete.	(6)
9	a)	Explain about the durability of concrete in sea water.	(8)
	b)	Write short notes on high strength concrete and ready mixed concrete.	(6)
	c)	Explain various methods for controlling corrosion in steel reinforcement.	(6)

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