Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

V SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

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 effect of super plasticizers on fresh and hardened concrete.	(5)
	b)	Write a short note on artificial aggregates.	(5)
	c)	What are the properties and uses of air entraining admixtures in concrete?	(5)
2.	a)	What is meant by bleeding of concrete and how can it be controlled?	(5)
	b)	What is the effect of size and shape of aggregate in concrete?	(4)
	c)	Explain the procedure for the determination of soundness of cement.	(6)
3.	a)	Explain the various methods for enhancing the workability of concrete.	(7)
	b)	What are the properties of Bogue's compounds?	(4)
	c)	What are the methods for sampling of aggregates?	(4)

PART B

Answer any two full questions, each carries 15 marks.

4.	a)	Describe the advantages of using mineral admixtures in concrete.	(6)
	b)	With a neat figure, explain the stress-strain behaviour of concrete.	(4)
	c)	What are the factors affecting strength of concrete?	(5)
5.	a)	Explain the influence of silica fume on fresh and hardened concrete.	(5)
	b)	What is meant by shrinkage of concrete? Explain its different types.	(5)
	c)	Explain the various factors affecting modulus of elasticity of concrete.	(5)
6.	a)	Write down the procedure for concrete mix design by BIS method.	(8)
	b)	What are the objectives of concrete mix design?	(3)
	c)	What is the effect of creep in concrete?	(4)

PART C

Answer any two full questions, each carries 20 marks.

7.	a)	Explain the factors affecting the measurement of ultrasonic pulse velocity.	(6)
	b)	What are the factors affecting the properties of fibre reinforced concrete?	(6)
	c)	What is sulphate attack in concrete? How is it controlled?	(8)
8.	a)	Write a short note on mass concrete and slip form construction.	(6)
	b)	What are the advantages of prefabricated concrete?	(6)
	c)	Explain Schmidt's rebound hammer test to assess the strength of concrete.	(8)
9.	a)	Explain various methods to test the fresh properties of self compacting concrete.	(6)
	b)	Describe the effect of fire on concrete.	(6)
	c)	Explain the composition, properties and uses of high strength concrete.	(8)

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