Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 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)	Describe the various tests for determining the quality of aggregate to be used for concreting work.	(6)
	b)	Describe the types of aggregate and explain the effects of aggregate on properties of concrete.	(4)
	c)	Explain the production of artificial aggregate and write a note on blended cement.	(5)
2	a)	What do you mean by hydration of cement. Write short notes on products of hydration.	(5)
	b)	Explain the phenomenon of bleeding and segregation in concrete?	(6)
	c)	Describe the various test for determining the properties of cement?	(4)
3	a)	Explain the action of Plasticizers in concrete.	(5)
	b)	What are admixture? How are admixtures classified?	(5)
	c)	Explain the term workability and enumerate the various factors affecting workability?	(5)

PART B

Answer any two full questions, each carries 15 marks

4	a)	Explain the term shrinkage in concrete. What are the different forms of shrinkage in concrete.	(5)
	b)	Explain the term creep and shrinkage. What are the factors affecting these parameters?	(6)
	c)	Briefly discuss about the elastic properties of concrete.	(4)
5	a)	Describe the factors considered in mixture proportioning ?.	(4)
	b)	Discuss the step by step procedure for mix design of ACI method.	(5)
	c)	Write short note on various mineral admixtures.	(6)
6	a)	Discuss the effect of rice-husk ash on properties of concrete.	(6)
	b)	Explain the factors affecting the strength of concrete.	(5)
	c)	Compare compressive strength results of cube with cylinder test on concrete.	(4)

PART C

Answer any two full questions, each carries 20 marks

7	a)	Explain the sulphate attack on concrete and explain the effect of sea water in concrete.	(6)
	b)	Explain aboutstatistical quality control of concrete.	(4)
	c)	What is non-destructive testing of concrete? Discuss any four methods.	(10)
8	a)	Explain Light weight concrete andhigh strength concrete.	(8)
	b)	What are the factors which affecting the reinforcement corrosion?	(4)
	c)	Explain fibre reinforced concrete andpolymer concrete.	(8)
9	a)	Explain under water concreting methods.	(6)
	b)	Describe sprayed-concrete and mass-concrete.	(8)
	c)	Explain the factors affecting durability.	(6)

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