Draft Scheme of Valuation/Answer Key

(Scheme of evaluation (marks in brackets) and answers of problems/key)

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B.TECH DEGREE(S) EXAMINATION, JANUARY 2023

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)	Salient properties of C3S, C2S, C3A (3 × 2 = 6 marks)	(6)
	b)	Any 5 advantages (5 × 1 = 5 marks)	(5)
	c)	Quartering (2 marks), Rifflers (2 marks)	(4)
2	a)	Listing any 4 methods (2 marks), Explaining (2 × 2 = 4 marks)	(6)
	b)	Properties (3 marks), Uses (2 marks)	(5)
	c)	Any 4 points related to curing (4 marks)	(4)
3	a)	Action (3 marks), Uses (3 marks)	(6)
	b)	Properties (3 marks), Uses (2 marks)	(5)
	c)	Any 4 functions of aggregate (4 × 1 = 4 marks)	(4)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	Effect of fly ash on fresh concrete (3 marks) Effect of fly ash on hardened concrete (strength and durability) (3 marks)	(6)
	b)	What is trial mix (2 marks) How is it made (3 marks)	(5)
	c)	Characteristic strength (2 marks), target strength (2 marks)	(4)
5	a)	Definition of creep (2 marks), Positive effects (2 marks) Negative effects (2 marks)	(6)
	b)	Any 5 factors (5 × 1 = 5 marks)	(5)
	c)	Definition (2 marks), determination (2 marks)	(4)
6	a)	Relevant steps from target strength estimation to trial mixes (6 × 1½ = 9 marks)	(9)
	b)	Any 3 important points related to tensile strength (3 × 1 = 3 marks)	(3)

	c)	Explaining any 3 factors affecting shrinkage (3 × 1 = 3 marks)	(3)
PART C			
Answer any two full questions, each carries20 marks.			
7	a)	Figure (2 marks), procedure (4 marks) and determination of strength (2 marks)	(8)
	b)	Mechanism (2 marks), any 2 control methods (2 × 2 = 4 marks)	(6)
	c)	Explaining any 3 methods (3 × 2 = 6 marks)	(6)
8	a)	Short note on ready mixed concrete (4 marks), advantages (4 marks)	(8)
	b)	Mix composition of self compacting concrete (3 marks), any 3 advantages (3 marks)	(6)
	c)	Mass concrete (3 marks), slip form construction (3 marks)	(6)
9	a)	Procedure of UPV with figure (6 marks), advantages (2 marks), limitations (2 marks)	(10)
	b)	Properties of FRC (4 marks), Any 2 uses or applications of FRC (2 marks)	(6)
	c)	Explaining any one method of underwater concreting with figure (4 marks)	(4)
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