Model Question Paper 2023-24(CBCS Scheme)

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Sixth Semester B.E. Degree Examination
CONCRETE TECHNOLOGY 21CV62

TIME: 03 Hours **Max. Marks: 100**

Note: *01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.*
02. Use of IS:10262-009 is permitted

Questions			*Bloom's Taxonomy Level	Marks
Module -1				
Q.01	a	Mention different types of cement	L2 & CO1	10
	b	Explain the following i.Flyash ii.Silica fumes iii.Rice husk Ash iv. GGBS	L2 & CO1	10
OR				
Q.02	a	List out Bogue's compounds and explain their contribution towards gaining of strength of cement.	L2 & CO1	10
	b	Explain importance of size, shape and texture of aggregates.	L2 & CO1	10
Module-2				
Q.03	a	Explain the factors affecting workability of fresh concrete	L2 & CO2	10
	b	Explain the effects of segregation and bleeding on concrete	L2 & CO2	10
OR				
Q.04	a	Mention the various stages involved in manufacturing of concrete. Discuss any two stages.	L2 & CO2	10
	b	Why curing is needed? Explain different methods of curing of concrete.	L2 & CO2	10
Module-3				
Q.05	a	Explain significance of concrete mix design and write the steps involved in concrete mix design as per IS code and also discuss the variables in proportioning of concrete	L2 & CO3	20
OR				

Q.06	a	Design a concrete mix for grade M 25 a. Grade designation: M 25 b. Type of cement: OPC 43 grade c. Max. nominal size of aggregates 20mm down d. Min cement content: 300kg/m^3 e. Water cement ratio :0.5 f. Workability: 75mm slump g. No chemical admixture h. Fine aggregate: zone II i. Exposure condition: moderate j. Method of concrete placing: manual k. Max cement content :450kg/ m^3 l. Specific gravity of cement: 3.15 m.Specific gravity of coarse aggregate :2.80 n. Water absorption of coarse aggregate :1% o. Free surface moisture: nil p. Specific gravity of fine aggregate :2.65 q. Water absorption of fine aggregate: 2% r. Free surface moisture: 2%	L4 & CO3	20
		Module-4		
Q.07	a	Explain the relation between modulus of Elasticity and Strength	L2 & CO4	10
	b	Explain: i.Factors affecting strength ii. w/c ratio iii.gel/space ratio iv.maturity concept	L2 & CO4	10
		OR		
Q.08	a	Explain the factors affecting the modulus of Elasticity	L2 & CO4	10
	B	Explain the Poisson Ratio.	L2 & CO4	10

		Module-5		
Q.09	a	Define shrinkage and creep of concrete? Discuss about the factors affecting the shrinkage of concrete.	L2 &CO5	10
	b	Explain: i . Permeability ii. Sulphate attack iii. Chloride attack	L2 &CO5	10
		OR		
Q.10	a	Explain Construction joints and Expansion joints,	L2 &CO5	10
	b	What is durability of concrete? what are the factors affecting durability of concrete	L2 &CO5	10