2024
(JUNE)

CONCRETE TECHNOLOGY

Full Marks: 100
Pass Marks: 30
Time: Three hours
The figures in the margin indicate full marks for the questions.
*Answer **any five** questions.*

		Question body	Marks
1.	a)	What are the chemical compounds of Portland cements? Write their characteristics	10
	b)	Define workability? Describe compaction factor test?	2+8=10
2.	a)	Describe the factors affecting the strength of concrete	10
	b)	Describe the tests to determine flakiness index and elongation index	5+5=10
3.	a)	Define efflorescence? Write down the remedies of efflorescence?	2+8=10
	b)	Describe the field tests of cement	10
4.	a)	Determine the aggregate crushing value for the following data Total weight of aggregate taken= 10 kg. Weight of aggregate passing through 12.5mm IS sieve and retained on 10mm IS sieve=3kg. Weight passing through 2.36mm IS sieve after testing= 756 gm.	5
	b)	Write a note on Hydration and heat of hydration of cement	5+5=10
	c)	Describe bleeding? Write the remedies of bleeding.	5
5.	a)	Write a note on the classification of aggregates based on shape	5
	b)	Write short note on rapid hardening cement and sulphate resisting cement.	5+5=10
	c)	Sand of 500gm is taken for sieve analysis. The weight retained on the sieve 10 mm, 4.75 mm, 2.36 mm, 1.18 mm, 600μ, 300μ, 150μ and 75μ are 0.0 gm, 2 gm, 4 gm, 21 gm, 79 gm, 291 gm, 95 gm and 7 gm respectively. Determine the fineness modulus of the sand	5