

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2022**

**CONCRETE TECHNOLOGY**

[Maximum Marks: 75]

[Time: 3 Hours]

**PART-A**

**I. Answer *all* the following questions in one word or one sentence. Each question carries 'one' mark.**

**(9 x 1 = 9 Marks)**

		Module Outcome	Cognitive level
1.	According to IS, the initial setting time of Ordinary Portland Cement should be greater than.....minutes.	M1.02	R
2.	Aggregates retained on 4.75mm IS sieve is termed as .....aggregates.	M1.03	R
3.	Soundness test of cement is tested using.....apparatus.	M1.02	R
4.	Maximum water cement ratio for different grades of concrete for different exposure conditions are specified in IS.....	M2.01	R
5.	.....process is adopted to eliminate air bubbles and to give maximum density to the concrete.	M2.03	R
6.	The proportion 1:1:2 corresponds to .....grade of concrete.	M3.01	R
7.	In mix design, target mean strength for concrete mix is calculated using formula.....	M3.01	R
8.	Concrete which is modified with short discrete fibres are called.....	M4.02	R
9.	.....is a special type of concrete having lower density?	M4.02	R

**PART-B**

**II. Answer any *eight* questions from the following. Each question carries 'three' marks.**

**(8 x 3 = 24 Marks)**

		Module Outcome	Cognitive level
1.	Explain Fineness test of cement.	M1.02	U
2.	Describe classification of aggregate based on shape.	M1.03	U
3.	List the different grades of OPC available and describe how they are designated.	M1.01	U
4.	List the factors affecting workability of fresh concrete.	M2.02	R
5.	Explain segregation and causes of segregation.	M2.02	U
6.	List any six methods for concrete mix design.	M3.02	U
7.	Differentiate between nominal mix and design mix concrete.	M3.01	U
8.	Define concrete mix design.	M3.01	R
9.	List any six special concretes used.	M4.02	R
10.	Describe Super plasticizers.	M4.01	U

**PART-C**

**Answer all questions. Each question carries 'seven' marks**

**(6 x 7 = 42 Marks)**

		Module Outcome	Cognitive level
III.	Explain the precautions to be taken while storing cement. <b>OR</b>	M1.02	U
IV.	Describe consistency test of cement.	M1.02	U
V.	Explain slump test for workability. <b>OR</b>	M2.02	U
VI.	Describe bleeding. What are the preventive measures to control bleeding?	M2.02	U
VII.	Describe durability of concrete. What are the factors affecting durability. <b>OR</b>	M2.02	U
VIII.	Describe different methods of compaction of concrete.	M2.03	U
IX.	Show the procedural steps of mix design of concrete as per IS method. <b>OR</b>	M3.02	A
X.	List the basic data required for the design of concrete mix.	M3.01	R
XI.	Describe characteristics of Geopolymer concrete. <b>OR</b>	M4.02	U
XII.	Explain precautions to be adopted while concreting in hot weather conditions.	M4.04	U
XIII.	Describe High Strength Concrete. <b>OR</b>	M4.02	U
XIV.	Describe accelerating admixtures and retarding admixtures used in concrete.	M4.01	U

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