**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2024**

# CONCRETE TECNOLOGY

[Note: IS 456 and IS 10262 may be permitted]

(Maximum Marks:100) (Time: 3 Hours)

**PART - A**
( Maximum Marks : 10 )

**Marks**

I. Answer **all** the questions in one or two sentences. Each question carries 2 marks.

1. Define bulking of sand.

2. Differentiate between modular ratio and poisson's ratio.

3. Give the purpose of mix design.

4. List any two methods of concrete mix proportioning.

5. Write any two remedial measures for corrosion of reinforcement in

   concrete. ( 5 x 2 = 10 )

**PART - B**
( Maximum Marks: 30 )

II Answer *any five* questions from the following. Each question carries 6 marks.

1. List out the different field tests conducted on cement.

2. Explain about the classification of aggregates.

3. Differentiate between segregation and bleeding.

4. State the properties of hardened concrete.

5. Differentiate between design mix and nominal mix.

6. List out the precautions to be taken in hot weather concreting.

7. Explain briefly about polymer concrete. ( 5 x 6 = 30)

**PART – C**
(Maximum Marks: 60)
(Answer *one full* question from each unit. Each full question carries 15 marks.)

**UNIT - I**

III (a) Explain about the chemical composition of cement with function of

   each ingredients. (8)

(b) Explain about the soundness test conducted on cement. (7)

**OR**

IV  (a)  Explain about the test procedure to find out the impact value of aggregates. (8)

(b)  List out the functions of admixtures in concrete. (7)

## UNIT – II

V  (a)  Explain about the different methods of compaction of concrete. (8)

(b)  Explain about the factors affecting the strength of concrete. (7)

**OR**

VI  (a)  Explain about (i) Slump test (ii) Compaction factor test. (8)

(b) Explain the procedure to find the split tensile strength of concrete. (7)

## UNIT – III

VII (a) Define the following. (8)
     (i) Mean strength  (ii) Variance  (iii) Standard deviation
     (iv) Coefficient of variation.

(b) Explain about the various parameters in mix design. (7)

**OR**

VIII Write the procedural steps for the mix design as per IS 10262. (15)

## UNIT – IV

IX  (a)  Explain about sulphate attack on concrete. (8)

(b)  Explain about self compacting concrete. (7)

**OR**

X  (a)  Explain about fiber reinforced concrete and list out the different types of

fibers commonly used. (8)

(b) List out the precautions in concreting in marine environment. (7)

****************