

No. of Printed Pages : 4
Roll No.

220731

3rd Sem / Civil Engineering
Subject : Concrete Technology

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 What is Concrete Technology ?

- a) Concrete Technology deals with the study of bricks
- b) Concrete Technology is the study of building materials.
- c) Concrete Technology deals with the study of properties of concrete.
- d) None of the mentioned above

Q.2 The compound of cement abbreviated as C₂S represents.

- a) Di-calcium Silicate
- b) Tri-calcium Aluminate
- c) Di-calcium Sulphate
- d) Tetra- calcium Alumino Ferrite

Q.3 Dimensional change in concrete occur due to _____

- a) Creep
- b) Shrinkage
- c) Elasticity
- d) All of these

Q.4 The capacity of a concrete mixer is measured in term of _____.

- a) Total volume of concrete produced per day
- b) Total volume of concrete produced in 8 hours
- c) Volume of concrete mix handled per batch
- d) Total volume of concrete produced per hour

Q.5 Surface vibrator is effective only when the thickness of concrete member does not exceed.

- a) 100 mm
- b) 125 mm
- c) 150 mm
- d) 200 mm

Q.6 For under water construction _____ cement is used.

- a) Portland pozolana Cement
- b) Quick setting Cement
- c) Ordinary Portland Cement
- d) Expansive Cement

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Adding water increases _____ of the concrete.(Workability / Strength)

Q.8 _____ is the range of water in M -25 (21 L to 27 L / 34 L to 36 L)

Q.9 Admixtures that cause early setting and hardening of concrete are called _____ (Retarders/ Accelerators)

(1)

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(2)

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- Q.10 If fineness modulus of sand is 2.5, it is graded as _____ (Fine sand / Coarse Sand)
- Q.11 Compaction factor test is applicable when the size of coarse aggregate is up to _____ (25 mm / 40 mm)
- Q.12 Concrete is not recommended to be placed at a temperature above _____ (40°C / 50°C)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. $(8 \times 4 = 32)$

- Q.13 Write any four advantages and four disadvantages of concrete as a construction material.
- Q.14 Write a short note on "Specific Gravity of Aggregates."
- Q.15 Describe the effects of water-cement ratio on the strength of concrete.
- Q.16 Write down the various causes of segregation in concrete.
- Q.17 Write a short note on "Mineral admixtures".
- Q.18 Write down a short on "maintenance and care of Mixes".
- Q.19 Write down the objectives of curing of concrete.

- Q.20 Write the various precautions to be taken, before and during the concreting cold weather conditions.
- Q.21 Write a short note on "Fly Ash Concrete".
- Q.22 Describe the process of testing the strength of concrete using the rebound hammer test.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. $(2 \times 8 = 16)$

- Q.23 a) Explain the procedure of grading of fine aggregate in detail. (4 marks)
- b) Describe the effect of storage on strength of cement. (2 marks)
- c) Write down the criteria for the removal of form work as per specification given in IS: 456-2007. (2 marks)
- Q.24 Write down the stepwise procedure for design of normal concrete as prescribed by IS: 456-2007
- Q.25 Enlist the various methods of transportation of concrete and explain any one of them in detail.