No. of Printed Pages : 4

BCE-044

DIPLOMA IN CIVIL ENGINEERING
DCLE(G) / DCLEVI

00300

Term-End Examination

June, 2015

BCE-044 : CONCRETE TECHNOLOGY

Time : 2 hours *Maximum Marks : 70*

Note : *Question no. 1 is* ***compulsory*** *and in addition solve any* ***four*** *questions.*

1. Choose the correct answer : *7×2=14*

(a) The specified compressive strength of concrete is obtained from cube tests at the end of

(i) 7 days

(ii) 14 days

(iii) 21 days

(iv) 28 days

(b) Initial setting of cement is caused due to

(i) Tri-Calcium Silicate

(ii) Di-Calcium Silicate

(iii) Tri-Calcium Aluminate

(iv) None of these

(c) Aggregate Abrasion test is a relative measurement of

(i) toughness

(ii) hardness

(iii) creep

(iv) durability

(d) Workability of concrete mix _____ with increase in water content.

(i) decreases

(ii) increases

(iii) does not change

(iv) Either (i) or (ii)

(e) Weight of cement in 1 bag is

(i) 25 kg

(ii) 35 kg

(iii) 50 kg

(iv) None of these

(f) The first operation of finishing the concrete is called

(i) Screeding

(ii) Floating

(iii) Trowelling

(iv) None of these

(g) Ready mix concrete is suitable for

(i) Building construction projects

(ii) Underwater structures

(iii) Infrastructure projects

(iv) None of these

2. (a) State the advantages of concrete. 7

(b) What is creep ? What are the factors affecting creep of concrete ? 7

3. (a) Explain the dry process of cement manufacture. 7

(b) Describe the procedure of determining the initial setting time of cement in lab. 7

4. (a) Explain Aggregate Crushing Value (ACV) test procedure. 7

(b) Discuss Abram's water-cement ratio law and its limitations. 7

5. (a) With the help of a neat sketch, describe the slump test. 7

(b) Describe the various methods of storing cement, giving sketches. 7

6. (a) Enlist the methods of transportation of concrete, and explain the belt conveyor method. 7

(b) What do you understand by hot weather concreting ? State the problems encountered in hot weather concreting. 7

7. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Cement factor and yield of concrete

(b) Prestressed concrete

(c) Precast concrete

(d) Construction joints

(e) Quality control of concrete

(f) Objectives of concrete mix design