No. of Printed Pages : 3

ET-581(A)

B.Tech. Civil (Construction Management)

Term-End Examination

00750

June, 2016

ET-581(A) : TESTING FOR QUALITY CONTROL

Time : 3 hours *Maximum Marks : 70*

Note : *Question number **1** is **compulsory**. Attempt any **four** out of the remaining six questions.*

1. Fill in the blanks in the following : 7×2

(a) One bag of cement contains _____ litres of cement which is normally equal to _____ kg.

(b) Consistency cement is measured by _____ apparatus whereas LeChatelier apparatus is used to determine the _____ of cement.

(c) For very low and low workability concrete _____ test is not useful for determining the workability but _____ test is preferred.

(d) Size of timber specimen for conducting compression test (parallel to grain) is _____ and for perpendicular to grain is _____ .

(e) _____ method and _____ method are the two most popular methods used for non-destructive testing of hardened concrete.

(f) Increase in volume of sand due to the presence of moisture is called as _____ . Whereas separating of ingredients in concrete mix is called as _____ .

(g) The bottom and top diameters of mould used for slump test are _____ and _____ respectively.

2. Discuss the practical significance of determining the standard consistency of cement and describe the method of determining the same. Give a neat sketch (with dimension) of the apparatus . *4+7+3*

3. Name any four tests for particle size and shape of aggregates. Describe the test for determining the angularity number in detail. Also give the acceptable range of angularity number. *4+8+2*

4. Define workability of concrete mix. Name any four methods of determining workability. Describe the compaction factor test and its limitations. Give a neat sketch of experimental set-up. *2+8+2+2*

5. (a) Explain the effect of height/diameter ratio of specimen and rate of loading on the compressive strength of concrete. 5

(b) Describe the cylinder splitting test for determining the tensile strength of concrete. Give the advantages of this test. 6+3

6. (a) Describe the acceptance criteria for concrete as per IS : 456. 8

(b) Define the characteristic strength of concrete. 6

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

(a) Glue-Adhesion Test

(b) Efflorescence of Bricks

(c) Non-Destructive Tests (NDT)

(d) Capping of Specimen

(e) Deval Abrasion Test

(f) Fineness of Cement