B.Tech. Civil (Construction Management)
Term-End Examination
June, 2017

00035

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 : 　　　　　　　　14

   (a) On increasing _____ the workability of concrete increases while the strength of concrete _____ . 　　2

   (b) The rebound number test is a _____ test of concrete. This test is based on _____ of concrete. 　　2

   (c) Split tensile test is a _____ method for finding the tensile strength of concrete. 　　1

   (d) 80-20 rule is used in _____ analysis. 　　1

   (e) Windsor probe test estimates the strength of concrete in terms of _____ . 　　1

   (f) Bleeding water percentage = _____ . 　　2

(g) Cube strength is _____ than that of cylinder strength for the same mix of concrete. *1*

(h) The standard deviation and arithmetic mean of a set of data are 3·86 N/mm^2 and 20 N/mm^2. The coefficient of variation will be _____ . *2*

(i) The average water absorption of tiles as per IS 1237 – 1980 shall not be more than

_____ . *2*

2. (a) Describe the procedure to find the tensile strength of the concrete. *7*

(b) Explain soundness of cement. How is it determined ? *7*

3. Write notes on the following :

(a) Normal Distribution Curve and its Utility *7*

(b) Corrosion of Reinforcing Bars *7*

4. (a) Explain the role of superplasticizer in concrete. *7*

(b) Discuss the factors affecting the strength of concrete. *7*

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5. Describe any *four* of the following : $4 \times 3\frac{1}{2} = 14$

    (a)   Efflorescence test of bricks

    (b)   Initial and final setting time of cement

    (c)   Compressive strength of cement

    (d)   Effect of l/D ratio on strength

    (e)   Soundness of cement

6. (a)   Discuss any one method for finding workability of concrete.   7

    (b)   Why is grading of aggregate carried out ? Discuss its effect in increasing the strength of concrete.   7

7. Explain any *two* of the following : $2 \times 7 = 14$

    (a)   Ring tension test

    (b)   Curing of concrete in aggressive environment

    (c)   Ball penetration test

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