No. of Printed Pages : 3 **ET-581(A)**

B.Tech. Civil (Construction Management)

Term-End Examination

June, 2012

01975

ET-581(A) : TESTING FOR QUALITY CONTROL

Time : 3 hours *Maximum Marks : 70*

Note : *Question No. 1 is **compulsory**. Attempt **any four** out of the remaining **six** questions. The answer shall be in your own language.*

1. Fill in the blanks in the following : **7x2=14**

   (a) Initial setting time in OPC is not less than _____ minutes. While in Rapid Hardening Cement it is not more than _____ minutes.

   (b) Cement - water reaction is _____ and it is estimated that about _____ calories of heat is generated during hydration of 1gm cement.

   (c) Turbidity method is used to determine _____ in water while water containing more than _____ ppm of iron may be avoided for curing.

(d) _____ refers to the ability of aggregate to resist excessive changes in volume as a result of change in physical conditions. Soundness test is specified in is_____.

(e) Separating of ingredients in concrete mix is called _____ while _____is due to rise of water in the mix to the surface.

(f) Proportioning of different constituents of concrete is called _____ while _____ is application of neat cement / sulphur / plaster on cylindrical specimen to provide plane surface.

(g) Variance is a measure of _____ of data while standard deviation is the _____ of the variance of data.

2. Which are the three methods for testing of Admixtures of chlorides in concrete ? What is the criteria of selecting these methods ? Explain any one of these methods in detail. **3+3+8=14**

3. What are the three types of slump one can get from slump test ? Explain each of them with neat diagram . How can you measure slump directly by K- Slump tester, in fresh concrete ? Explain with the help of diagram. **3+6+5=14**

4. List the mechanical properties of aggregate explain the test for determination of Aggregate Impact value. **4+10=14**

5. Explain the two principles which are used to test the Surface hardness in non - destructive testing ? How does non - destructive testing differs from destructive testing ? **8+6=14**

6. How will you determine the following ? **4x3½=14**
   (a) Compressive strength of bricks
   (b) Water Absorption of Bricks
   (c) Effloresence of bricks
   (d) Resistance to wear

7. Write short notes on the following : **4x3½=14**
   (a) Ten percent fines test value
   (b) Flakiness index of aggregate
   (c) Determination of flexural Strength of concrete
   (d) Workability of concrete mix