

B.Tech. Civil (Construction Management)

Term-End Examination

December, 2013

**ET-581(A) : TESTING FOR QUALITY
CONTROL**

00851

Time : 3 hours

Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks. Use of Non-programmable scientific calculator is permitted.

1. (a) Explain how the strength of cement is affected by its fineness. Discuss Blaine air permeability test. 7
- (b) Define initial and final setting times. Explain how they are determined. 7
2. (a) What do you mean by alkali aggregate reaction. Explain chemical method for determining the potential reactivity of the aggregate. 7
- (b) Differentiate between flakiness index and the elongation index. Discuss how they affect the strength of concrete. 7

3. (a) Explain true slump, shear slump and collapse slump. Discuss the factors affecting workability. 7
- (b) Explain segregation and bleeding. Discuss how these are determined. 7
4. (a) What do you mean by flexural strength of concrete ? Explain three point loading method for the determination of flexural strength. 7
- (b) Discuss Brazilian test. 7
5. (a) Explain electrical method in respect of following : $3\frac{1}{2} \times 2 = 7$
- (i) Determination of corrosion of steel bar
- (ii) Determination of moisture content of hardened concrete.
- (b) Explain with a suitable example the ultrasonic pulse velocity method. 7
6. (a) Discuss in detail the acceptance criteria for cube strength as per codal recommendation. 7
- (b) Determine the coefficient of variation for the following data related to the compressive strength of the given cubes - 7

Sample No.	Compressive Strength CN/mm ²
1.	18.5
2.	16.5
3.	23.5
4.	17.5
5.	21.0
6.	26.4
7.	23.0
8.	20.0

7. (a) What are the various tests for glazed earthenware tiles ? Explain any two in detail. 7
- (b) Explain how the load carrying capacity of AC sheets is determined. 7
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