VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF CIVIL ENGINEERING

Continuous Assessment Test–II September 2018

B.Tech. (*Civil Engineering*), Fall Semester 2018-19

Course Code	**: CLE 1007**	**Duration**	**: 90 Minutes.**
Course Name	**: Construction Materials and Techniques**	**Max. Marks**	**: 50**
Faculty-In-Charge:	**Dr. J. Jayaprakash / Dr. S. S. Ajeesh**	**Slot**	**: A2+TA2**
Class Number	**: 3712/1847**		

Answer all the questions

(5 X 10 = 50 marks)

1. As a civil engineer, you are required to construct a building having wall and roof thickness of 60 mm. Identify a suitable construction technique and explain the merits and challenges involved in the construction.
2. For civil engineering application, a manufacturer approaches you to determine the properties of mild steel and aluminium. Suggest a suitable laboratory technique and explain procedure for determining material properties of mild steel and aluminium with relevant diagram.
3. Suggest a suitable technique to increase the tensile strength of plain cement concrete without adding steel reinforcement. Elaborate on the technique and explain the benefits and limitations.
4. You are required to assess the quality of cement at site. Explain how the quality of cement can be assessed at work site. Also identify and explain a suitable laboratory test method to monitor the change in volume of concrete, once it sets.
5. Identify the compounds present in dry cement and explain the role of each compound on the mechanical properties of cement. Also explain how the setting time of cement can be controlled during the manufacturing process of cement.