

**B.Tech. Civil (Construction Management)/  
B.Tech. Civil (Water Resources Engineering)/  
BTCLEVI**

00898

**Term-End Examination**

**June, 2016**

**ET-204(B) : ENGINEERING MATERIALS**

*Time : 3 hours*

*Maximum Marks : 70*

---

*Note : Attempt any five questions. All questions carry equal marks.*

---

---

1. (a) What are the components of Ordinary Portland Cement ? State the functions and limits of each of them. 7
- (b) Explain Blaine's air permeability test for the determination of fineness of cement. 7
2. (a) What are the constituents of plastics ? Explain the properties of plaster. 7
- (b) Explain the following tests for bitumen : 7
  - (i) Penetration test
  - (ii) Softening point test

3. (a) What are non-shrink grouts ? How do they fill the cracks and cavities in concrete ? 7
- (b) What is ferro cement ? Discuss its application in civil engineering. 7
4. (a) Discuss the factors that affect the strength of concrete. 7
- (b) Explain the following tests used for finding workability of concrete : 7
- (i) Slump test
- (ii) Compaction factor test
5. (a) What is pigment volume concentration ? Discuss its importance. 7
- (b) Explain gypsum plaster boards and non-load bearing gypsum partition blocks. 7
6. (a) What do you mean by geosynthetics ? Discuss its roles in various civil engineering projects. 7
- (b) What is glass wool ? Discuss its applications. 7
7. (a) Explain cable trunking in detail. 7
- (b) Discuss the granolithic floating with neat sketches. 7
8. Write short notes on the following :  $4 \times 3 \frac{1}{2} = 14$
- (a) Bitumen and Tar
- (b) Fibre Reinforced Concrete
- (c) Mix Design of Concrete
- (d) Quality of Aggregate