

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]  
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**B. Tech 3rd Semester Examination**

**Civil Engineering Materials (O.S.)**

**CE-3004**

**Time : 3 Hours**

**Max. Marks : 100**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Attempt five question in all, selecting one question from each of the section A, B, C and D. Section E (Question no. 9) is compulsory.

**SECTION - A**

1. (a) Identify the precautions required before starting the quarrying of stones **(10)**  
(b) Explain the precaution required in storing explosives and in the process of blasting. **(10)**
2. (a) Discuss the properties required in good bricks. **(10)**  
(b) Discuss the tests which are conducted to ensure good bricks. **(10)**

**SECTION - B**

3. (a) What is meant by artificial lime? How is it manufactured? **(10)**  
(b) Explain the properties of good mortar. **(10)**
4. Briefly discuss the tests which are conducted for the suitability of cement. **(20)**

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**[P.T.O.]**

**SECTION - C**

- 5 Explain various defects in timber with the help of neat sketches. (20)
6. (a) Differentiate among the following (a) Pig iron and cast iron (b) Die casting and sand casting (c) Mild and hard steel. (10)
- (b) Explain the advantages and disadvantages of nitriding process. (10)

**SECTION - D**

7. What are usual defects which are found in painting work? Explain the factors which need to take care for successful cement painting. (20)
8. (a) Explain the characteristics required in ideal varnish. (10)
- (b) Explain various properties required in plastic for using as building material. Also, discuss various applications of plastics. (10)

**SECTION - E**

9. Give reasons of the following :
- (a) Freshly quarried stone are seasoned before placing in use.
- (b) River sand is generally preferred than sea sand in building construction.
- (c) Felling of trees should always be avoided in spring and autumn.
- (d) All plastics are combustible.
- (e) The proportion of lime in cement is carefully maintained. (5×4=20)