



**B.E DEGREE EXAMINATIONS: JUNE 2017**

(Regulation 2015)

Second Semester

**CIVIL ENGINEERING**

U15CET201 : Construction Materials

**COURSE OUTCOMES**

- CO1:** Compare the properties of most common and advanced building materials.  
**CO2:** Understand the typical and potential applications of these materials.  
**CO3:** Understand the quality test procedures for various materials.  
**CO4:** Know about the structural forms of various materials.  
**CO5:** Acquire knowledge on advanced materials used in civil engineering field.

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. Matching type item with multiple choice code

CO2 [K<sub>2</sub>]

List I - Type of Material	List II – Choice of adaptation
A. Bitumen pads	i. Fly ash
B. Timber	ii. Expansion joints
C. Pozzalona Portland Cement	iii. Geo textile
D. Jute /synthetic fibers	iv. Creosoting

- |    | A   | B   | C  | D   |
|----|-----|-----|----|-----|
| a) | ii  | iv  | i  | iii |
| b) | iv  | iii | ii | i   |
| c) | iv  | iii | i  | ii  |
| d) | iii | i   | ii | iv  |

2. The bricks used for lining interior surfaces of furnaces are \_\_\_\_\_

CO1 [K<sub>1</sub>]

- |                  |                     |
|------------------|---------------------|
| a) Hollow bricks | b) Fire clay bricks |
| c) Facing bricks | d) Channel bricks   |

3. Select the correct statement : Moh's scale indicates:

CO1 [K<sub>1</sub>]

- |                              |                              |
|------------------------------|------------------------------|
| a) Roughness of stones       | b) Toughness index of stone  |
| c) Attrition value of stones | d) Hardness number of stones |

4. The quantity of gypsum added during the process of grinding the clinker is CO2 [K<sub>2</sub>]
- a) 15% b) 3% -4%  
 c) 22% d) 12%
5. Which of the following statement is / are correct? CO5 [K<sub>2</sub>]
- 1) fly ash could be used in wet mix macadam road material  
 2) Creosoting is one of the preservative method for railway sleepers  
 3) Ply wood is a manmade composite material
- The inert material in the paint ingredients is the thinner
- a) 1,3,4 b) 1,2,4  
 c) 1,2,3 d) 2,3,4
6. Vicat apparatus is used to find the CO3 [K<sub>2</sub>]
- a) Flow property of concrete b) Compressive strength of cement  
 c) Consistency and setting time of cement d) Soundness of cement
7. The following items consists of two statements, one labeled as the “Assertion(A)” and other as “Reason(R)”.Examine these two statements and select the answers from the following codes. CO4 [K<sub>2</sub>]
- Assertion (A): seasoning is the process of drying timber to prevent timber from possible fermentation and making it suitable for use.  
 Reason (R): Seasoning reduce the moisture content in timber
- a) (A) and (R) both are true and (R) is the correct reason for (A) b) (A) is True and (R) is False  
 c) Both (A) and (R) are true but (R) is not the correct explanation for (A) d) (A) is False and (R) is true
8. Which of the following is used to control fluid migration in a man made project, structure or system? CO5 [K<sub>1</sub>]
- a) geotextiles b) geogrids  
 c) geocomposites d) geomembranes
9. Sequence the following activities in the process of concreting works CO3 [K<sub>2</sub>]
1. Volume batching  
 2. placing  
 3. Machine mixing  
 4. Curing
- a) 3-2-1-4 b) 3-1-2-4  
 c) 1-2-4-3 d) 1-3-2-4



25. Explain the test procedure for concrete to find its compressive strength and modulus of rupture CO3 [K<sub>3</sub>]
26. (i) Explain important properties of aluminium and its advantages over other materials. (7) CO4 [K<sub>4</sub>]  
(ii) What are various methods of seasoning of timber (7) CO4 [K<sub>4</sub>]
27. Explain the applications of geotextiles and geomembranes for earth movement and other purposes. CO5 [K<sub>3</sub>]

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