

01125

**Diploma in Civil Engineering / Diploma
in Electrical & Mechanical Engineering**

Term-End Examination

June, 2010

BET-015 : ENGINEERING MATERIALS

Time : 2 hours

Maximum Marks : 70

Note : Question number 1 is compulsory. Attempt any four more questions from the remaining questions. All questions carry equal marks.

1. Choose the correct alternatives : **7x2=14**

(a) The rocks which are formed by gradual deposition, are :

- (i) sedimentary rocks
- (ii) igneous rocks
- (iii) metamorphic rocks
- (iv) none of these

(b) The size of modular bricks is :

- (i) $10 \times 10 \times 9$ cm.
- (ii) $19 \times 9 \times 9$ cm.
- (iii) $22.5 \times 10 \times 8.5$ cm.
- (iv) $22.5 \times 8.0 \times 9$ cm.

- (c) The property by virtue of which lime sets under water, is known as :
 - (i) slacking
 - (ii) setting
 - (iii) hydraulicity
 - (iv) calcining
- (d) Ultimate Strength to cement is provided by :
 - (i) Tri-calcium silicate
 - (ii) Di calcium silicate
 - (iii) Tri calcium aluminate
 - (iv) Tetra calcium alumino ferrite
- (e) Initial setting of cement is caused due to :
 - (i) Tri calcium silicate
 - (ii) Di-calcium silicate
 - (iii) Tri calcium aluminate
 - (iv) Tetra calcium alumino ferrite
- (f) Ground glass :
 - (i) is made by grinding its one side
 - (ii) is made by melting powdered glass paints on its surface
 - (iii) is used for getting light without transparency
 - (iv) All the above
- (g) The steel used in RCC work, is :
 - (i) stainless steel
 - (ii) mild steel
 - (iii) high carbon steel
 - (iv) iron

2. (a) Give the criteria for the suitability of stones for various types of construction. 7
(b) Describe the tests for the acceptance of bricks for building construction. 7
3. (a) Write down the characteristics of good timber. 7
(b) Describe the constituent parts of paint and their functions. 7
4. (a) Write down in details the market form of steel. 7
(b) Describe in details the types of glass with their properties and uses. 7
5. (a) Describe the functions of sand in mortar and the tests carried out on sand. 7
(b) Write down in a tabular form the Recommended Mixes of concrete. 7
6. (a) Describe in details special varieties of glass. 7
(b) Write down the properties of cement concrete in detail. 7
7. Write short notes on the following : $4 \times 3\frac{1}{2} = 14$
(a) Composition of plastics.
(b) List of Acoustics Material
(c) Slump test of concrete
(d) Uses of steel in construction work.