	Utech
<i>Name</i> :	
Roll No.:	The State of State Line and Excellent
Invigilator's Signature :	

## CS/B.TECH(CE)/SEM-3/CE-306/2010-11 2010-11

## **BUILDING MATERIALS & CONSTRUCTION**

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

#### **GROUP - A**

#### ( Multiple Choice Type Questions )

1. Choose the correct alternatives for any ten of the following:

 $10 \times 1 = 10$ 

- i) The size of modular brick is
  - a)  $190 \times 90 \times 90 \text{ mm}$
  - b)  $200 \times 200 \times 100 \text{ mm}$
  - c)  $9'' \times 4.5'' \times 3''$
  - d)  $100 \times 40 \times 10$  mm.
- ii) The purpose of frog on brick is
  - a) to hold the mortar firmly
  - b) to make easy the handling of the brick
  - c) to reduce the weight of the brick
  - d) none of these.

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	iii)	The Crushing strength of 1st class brick is				
		a)	7N/mm <sup>2</sup>	b)	10N/mm <sup>2</sup>	
		c)	$15N/mm^2$	d)	$5N/mm^2$ .	
	iv)	Bulking of sand is maximum in				
		a)	Fine sand	b)	Medium sand	
		c)	Coarse sand	d)	Mixture of sands.	
	v)	Prop	portion of cement and	sand	d in mortar for interior	
		plastering is				
		a)	1:4	b)	1:5	
		c)	1:6	d)	1:2.	
	vi)	Efflorescence of bricks is due to				
	a) Presence of alkalies in bricks					
		b) High silt content in bricks				
		c) Excessive burning of bricks				
		d) High porosity of bricks.				
	vii)	Bitumen is derived from				
		a)	Petroleum	b)	Coal	
		c)	Wood	d)	None of these.	
viii) When a brick is cutoff lengthwise, the cut-out					ise, the cut-out brick is	
		called				
		a)	King closer	b)	Queen closer	
		c)	Corbel	d)	Bat.	
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- ix) The number laid horizontally to support the rafter and to transmit load to the truss wall is
  - a) Purlin

- b) Rafter
- c) Ridge piece
- d) Dragon power.
- x) A mat or raft foundation is an example of
  - a) Deep foundation
- b) Shallow foundation
- c) Machine foundation
- d) None of these.
- xi) For the high strength of concrete the best aggregate is
  - a) Rounded
- b) Irregular
- c) Angular
- d) All-in-aggregate.
- xii) Plywood are prepared from
  - a) Veneers
- b) Fibre boards
- c) Impreg timber
- d) none of these.

#### **GROUP - B**

#### (Short Answer Type Questions)

Answer any *three* of the following.

 $3 \times 5 = 15$ 

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- 2. Explain ledged & frame door with neat sketch.
- 3. Explain the objects of plastering.
- 4. What precaution are to be taken during storage of cement?
- 5. Define water cement ratio. How does it influence concrete strength?
- 6. Explain the following defects of timber :
  - i) Upsets
  - ii) Rindgall.
- 7. Name different types of paints available in the market. Explain any one type.

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#### **GROUP - C**

#### (Long Answer Type Questions)

Answer any three of the following.



- 8. a) What is the objects of foundation?
  - b) Briefly write down the classification of foundation with neat sketch. 3 + 12
- 9. Briefly define the types of pitched roof with neat sketches. 15
- 10. a) Plan a dog legged stair for a building in which the vertical distance between the floor is 3.6 m. The stair hall measures  $2.5 \text{ m} \times 5 \text{ m}$ .
  - b) Write short notes on Flemish bond and English bond.

10 + 5

- 11. What are the steps usually required for preparation of clay? Give brief description of each. What is pug mill? Give description of each part. 5 + 5 + 5
- 12. State the advantage of seasoning. State the difference between natural seasoning & Kiln seasoning. State the advantage of Ply wood. 5+5+5

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