(iii) Lime mortar is generally made with (a) Quicklime (b) Fat lime Group - C (c) Hydraulic lime (d) White lime. 4. (a) (iv) Water absorption for first class brick should not be more than (a) 12% (b) 15% (c) 20%(d) 25%. (b)Write short note on TMT bar. A footing constructed with one column is called (v) Write down the properties of cement mortar. (c) (a) isolated footing (b) combined footing (c) strip footing (d) strap footing. 5. (a) What are the uses of steel? (vi) The size of modular brick is (a) 190 × 90 × 90 mm (b) 200 × 200 × 100 mm Write short notes on any two of the following: (b)(c) 225 × 112.5 × 75 mm (d) $100 \times 40 \times 10$ mm. (i) Distemper (ii) Whitewash (vii) The crushing strength of first class brick is (a) 5 N/mm^2 (b) 7 N/mm^2 (iii)Colour wash. $(d)15 \text{ N/mm}^{2}$ (c) 10 N/mm^2 Where cement mortar is used? (c) (viii) For plastering the exposed brick walls, the cement sand mortar should be (a) 1:2 (b) 1:3 (c) 1:4 (d) 1:6. Group - D **CIVL 4181** 1 **CIVL 4181** 2

(ix) Minimum width of landing should be

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- (a) equal to width of stairs (b) half the width of stairs
- (c) twice the width of stairs
- (d) one fourth the width of stairs.
- The type of pile which is driven at an inclination to resist inclined (x) forces is known as (a) sheet pile (b) friction pile (c) end bearing pile (d) batter pile.

Group - B

- 2. (a) What is efflorescence?
 - (b)Compare between conventional clay brick and fly ash brick.
 - Write down the chemical composition of raw materials of OPC. (c)

4 + 4 + 4 = 12

- 3. (a) Write down Bogue's compound and their functions.
 - (b) What is bulking of sand?
 - Classify aggregates according to shape. (c)

4 + 3 + 5 = 12

What are the different methods to protect steel from rusting?

3 + 4 + 5 = 12

 $4 + (2 \times 3) + 2 = 12$

Full Marks : 70

 $10 \times 1 = 10$

(d) 14%.

(b) > 0.25 but < 0.35(d) > 0.45 but < 0.60.

(c) 11%

Time Allotted : 3 hrs

(a) > 0.25

content of (a) 5%

(c) > 0.35 but < 0.45

(i)

(ii)

Figures out of the right margin indicate full marks.

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BUILDING MATERIALS (CIVL 4181)

Candidates are required to answer Group A and

any 5 (five) from Group B to E, taking at least one from each group.

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

Group – A (Multiple Choice Type Questions)

For complete hydration of cement, the w/c ratio needed is

(b) 8%

The maximum bulking of sand is likely to occur at the moisture

1. Choose the correct alternative for the following:

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- 6. (a) Name different types of shallow and deep foundations.
 - (b) Explain the ledged and braced door.
 - (c) Write short note on Load bearing wall.

4 + 5 + 3 = 12

- 7. (a) What are the functions of a foundation?
 - (b) Describe English bond and Flemish bond with neat sketch.

5 + 7 = 12

Group – E

- 8. (a) Briefly describe the factors that are to be taken into consideration while selecting the flooring materials.
 - (b) Describe trussed roof and its advantages with neat sketch.

6 + 6 = 12

- 9. (a) Briefly describe the classifications of stairs with neat sketch.
 - (b) Write short notes on cement concrete floor.
 - (c) Write short notes on queen post truss.

6 + 3 + 3 = 12