MANIPAL UNIVERSITY

THIRD SEMESTER B. ARCH. DEGREE EXAMINATION – NOVEMBER 2015

SUBJECT: ARC 203 - BUILDING CONSTRUCTION AND MATERIALS III / BUILDING CONSTRUCTION III
(2010 & 2007 SCHEME)

Monday, November 16, 2015

Time: 14:00 – 18:00 Hrs.   Max. Marks: 50

✍ **Answer PART – A questions compulsorily, any TWO from PART – B and any ONE from Part – C.**

✍ **Assume suitable data wherever necessary.**

PART – A

1. Design a straight flight wooden-stair (stringer type) to reach a wooden mezzanine floor of joists and boards at 2.4m. Stair is at one end of the mezzanine floor with stringers parallel to the wall. One stringer is touching the wall.

    Draw the following to explain the scheme:

1A. Plan and section to describe the stair and its support structure

1B. Method of fixing riser and tread to end-strings

1C. Fixing of Standard and Hand-rail

                                                                    (9+3+3 = 15 marks)

PART – B

2A. What do you understand by the term 'foundation'?

2B. State the functions of foundation.

2C. Draw neat sketches of the various types of pile foundations used for buildings.

                                                                    (2+3+5 = 10 marks)

3A. Define Form work. What are the basic requirements for a good form work?

3B. With neat sketches, explain how the form work is done for a column.

                                                                    (4+6 = 10 marks)

4. **Write short notes on the following with neat sketches:**

4A. Timbering of trenches

4B. Raking shore

4C. Scaffolding

                                                                    (3+3½+3½ = 10 marks)

PART – C

5. Briefly explain the properties and uses of the following in the building industry:

5A. Aluminium

5B. Copper

5C. Stainless Steel

(5+5+5 = 15 marks)

6. Write on the architectural uses of the following materials:

6A. Plastics

6B. Asbestos

6C. Rubber

(5+5+5 = 15 marks)