

**MANIPAL UNIVERSITY****THIRD SEMESTER B. A. (ID) DEGREE EXAMINATION – NOVEMBER 2015****SUBJECT: BID 211 – BUILDING SERVICES - I**  
**(2013 AND 2014 SCHEME)**

Friday, November 20, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 50

✗ **Question No. 1 is compulsory.**

✗ **Answer any FOUR questions from Question No: 02 – 06.**

1. Design and explain with sketches the water supply system for a residence, specifying the pipe materials with valid reasoning. (Assume suitable data)

(10 marks)

2A. Enlist the different sources of water.

2B. Explain the quantitative and qualitative aspects of water to be considered before use.

(3+7 = 10 marks)

3. Explain the following:

3A. Valve and its functions

3B. Classification of valve based on mechanical motion

3C. Valve selection considerations

(2+5+3 = 10 marks)

4. Explain with sketches any five types of sanitary fittings used in residential toilet design.

(2 marks × 5 = 10 marks)

5. **Write a short note on:**

5A. Need of ducts in Air conditioning

5B. Role of Diffusers and filters in air conditioning

(5+5 = 10 marks)

6. Explain in detail on Fire Safety Concepts to be considered in a building design.

(10 marks)

