MANIPAL UNIVERSITY

SECOND SEMESTER B. ARCH. DEGREE EXAMINATION – MAY 2016

SUBJECT: BUILDING SERVICES I (ARC-14-108/ARC 108)
(2014 SCHEME)

Monday, May 23, 2016

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

- ✍ **Answer any FIVE full questions.**
- ✍ **Support your answers with neat sketches wherever necessary.**

1A. Explain the methods of water distribution systems with neat sketches.

1B. Name any five different types of pipes.

(7½+2½ = 10 marks)

2A. Define plumbing.

2B. Explain two types of water supply feeding systems for buildings.

2C. Define traps and explain their function in drainage systems.

(2+3+5 = 10 marks)

3. **Write short note on any FOUR from the following:**

3A. Surface reservoirs

3B. Displacement pumps

3C. Centralized hot water systems

3D. Leach Pit

3E. Herring bone sub soil drainage

(2½ marks × 4 = 10 marks)

4A. Explain the classification of solid waste materials.

4B. What does the recycling symbol with the three arrows represent?

4C. Explain with the help of sketches roof top rainwater harvesting.

(2+3+5 = 10 marks)

5. **Compare and contrast with diagram:**

5A. Single stack and one pipe system partially ventilated

5B. One pipe and two pipe system

(5+5 = 10 marks)

6. With the help of a neat proportionate sketch, explain the typical plumbing layout of a toilet-containing water closet and shower area. You may use suitable layout and dimensions.

6A. Plan

6B. Sectional elevations

6C. Explain Wet area and Dry area

(3+5+2 = 10 marks)