

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**SECOND SEMESTER B. ARCH. DEGREE EXAMINATION – JUNE/JULY 2019**  
**SUBJECT: BUILDING SERVICES I (ARC-14-108)**  
**(2014 SCHEME)**

Thursday, June 27, 2019

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer any FIVE full questions.

1. Explain the following:

- 1A. Regulators
- 1B. Interception loss
- 1C. Surface loss
- 1D. Surface drains
- 1E. Subsoil drains

(2 marks × 5 = 10 marks)

- 2A. Name any five desired characteristics of potable water.
- 2B. What are the different tests done to check the quality of water?

(5+5 = 10 marks)

- 3A. Write any five factors to be considered while selecting the material of pipes.
- 3B. Write three different pipes. Mention at least two of their advantages and disadvantages.

(5+5 = 10 marks)

- 4A. Explain rooftop rain water harvesting.
- 4B. Describe in detail various components of rooftop rain water harvesting with neat sketches.

(4+6 = 10 marks)

5. Write a short note with neat sketches on:

- 5A. Septic tank
- 5B. Black water and grey water

(5+5 = 10 marks)

- 6A. What is landfill, explain with neat sketches. Also draw the flowchart of waste management from consumer to landfills.
- 6B. List any five processes to treat solid waste.

(5+5 = 10 marks)

