

MANIPAL UNIVERSITY**THIRD SEMESTER B.S. (ENGG.) DEGREE EXAMINATION – DECEMBER 2015****SUBJECT: ENVIRONMENTAL TECHNOLOGY (AE 232)****(BRANCH: CIVIL)**

Wednesday, December 16, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 100

✍ Answer any TWO questions from part A and ONE each from Part B, C, and D.

PART A

- 1A. Define climate and weather.
- 1B. Explain the duration of sunshine in different months of a year.
- 1C. Explain different aspects of climate which affect human comfort.

(4+6+10 = 20 marks)

- 2A. Describe how special glasses are effective in heat and light absorption.
- 2B. What are the factors to be considered for constructing shelters in Mari time desert climate?

(8+12 = 20 marks)

- 3A. Describe different sources of water.
- 3B. Explain different chemical tests conducted for water analysis.
- 3C. Describe with advantages and disadvantages of using PVC pipes in water distribution system.

(6+8+6 = 20 marks)

- 4A. Explain the sedimentation process with a neat diagram.
- 4B. What is rate of demand of water? How the rate of demand of water is worked out for domestic purpose?
- 4C. Explain different types of pumps used in water supply system.

(8+6+6 = 20 marks)

PART B

- 5A. Write short note on:
 - i) Sewage
 - ii) Storm water and sub soil water
 - iii) Sullage and sewerage
- 5B. Explain conservancy system and water carriage system of sewage.
- 5C. Describe with a diagram two pipe system of plumbing.

(6+8+6 = 20 marks)

- 6A. What are the principles to be adopted in house drainage?
6B. What are the requirements of a good trap?
6C. Explain with a neat diagram how traps are classified based on their shapes.

(8+6+6 = 20 marks)

PART C

- 7A. Differentiate between window air conditioner and split air conditioner.
7B. What is primary treatment of sewage? Explain different components of primary treatment.
7C. Explain the rain water harvesting with a neat diagram.

(6+8+6 = 20 marks)

- 8A. Explain with a neat diagram Ring electric distribution system.
8B. Explain different types of wires used in electric distribution system.

(8+12 = 20 marks)

PART D

- 9A. Explain Dry risers and wet risers with a sketch.
9B. Explain different fire alarming system with a neat sketch.
9C. Write a short note on Inlets.

(8+8+4 = 20 marks)

- 10A. Define the working of an Escalator with a neat diagram.
10B. With a sketch explain the working of:
i) Grease and oil traps
ii) Manholes

(10+10 = 20 marks)

