

**M. Arch. Sem-III (Sustainable Architecture) (2014 Course) (CBCS) :
WINTER - 2018**

SUBJECT : ENERGY CONSERVATION – III ACOUSTICS AND AQUEOUS

Day: Thursday
Date: 22/11/2018

Time: 10.00 A.M. TO 12.00 NOON
Max. Marks: 60

W-2018-3476

N.B.

- 1) Solve any **THREE** questions from each section.
- 2) Answer to two sections should be written in **SEPARATE** answer books.
- 3) All questions carry **10** marks.

SECTION - I

- Q.1** Define or describe following terms: **(10)**
- a) Reverberation time
 - b) Focusing of sound
 - c) Sound Pressure Level
 - d) Creep
 - e) Flutter
- Q.2** Write short notes on: **(10)**
- a) Criteria for selection of sound insulation for auditorium
 - b) Behavior of sound in an enclosed space.
- Q.3** Write short notes on: **(10)**
- a) Air Borne sound and Structure Borne sound
 - b) Sound Isolation and measures for Sound Isolation
- Q.4** Explain the concept of Transmission Loss, Noise reduction, Barrier mass and Resonance. **(10)**
- Q.5** An auditorium for 500 capacities is to be designed for drama. Describe the procedure for design. Calculate the Reverberation Time, Sound Transmission Class rating, Room sound level and total Absorption. **(10)**

SECTION – II

- Q.6** Define or describe following terms: **(10)**
- a) Dug well
 - b) Vermicomposting
 - c) Solar Hot Water System
 - d) Artificial Recharge System
 - e) Swales
- Q.7** Write short notes on: **(10)**
- a) Principles of Down Feed Distribution
 - b) Water Conserving fixtures and its importance
- Q.8** Write short notes on: **(10)**
- a) Septic tank design and its need
 - b) Root zone system for gray water treatment
- Q.9** Explain significance of Rainwater harvesting and calculate annual storage tank for an apartment. The data given: **(10)**
- Roof area – 1000 sq. m – average rainfall – 100cm
Paved area – 300 sq. m – Lawn area – 100sq. m
- Q.10** Design a septic tank for a multistory building with population of 500 persons. Rate of water supply is 135 liters per capita. Design a soak pit as well for discharge from septic tank. Discuss limitations of septic tank. **(10)**

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