

**B.E/ B.Tech (Part Time) DEGREE ARREAR EXAMINATION, NOV/DEC 2013**  
**CIVIL ENGINEERING BRANCH (R2002)**  
**VII SEMESTER**  
**PTCE 039 BUILDING SERVICES**

**Time: Three Hours**

**Max Mark: 100 marks**

**Answer ALL questions**  
**PART-A (10x2=20 marks)**

1. List the types of services for multistory flats.
2. Write the importance of building services.
3. Distinguish between natural and artificial ventilation.
4. What is Illuminance level of school and hospital buildings?
5. Write the principles of acoustics.
6. What is thermal insulation?
7. Conveyance of sanitary waste-explain.
8. List the materials used for sanitary and water supply services.
9. What is transformer?
10. What are enamels?

**PART-B (5x16=80 marks)**

11. How do you upkeep the building environment? Explain the different services required for independent and industrial buildings.
- 12.a) Explain the following:
  - (1). Requirement of lighting. (8)
  - (2). Principle of lighting (8)

**(OR)**

- 12.b) Explain the orientation and advantages of natural ventilation. Sketch the ventilation system for a study room.
- 13.a) Explain the requirement and need of sound the thermal insulations in buildings. How do you overcome the problems of acoustics defects in buildings?  
**(OR)**

- 13.b) Discuss in detail about the air distribution for a residential building. Explain the requirement for air conditioning in buildings.

14.a) Explain the detailed planning and design considerations of sanitary unit for a double storey building.

(OR)

14.b) Explain the detailed planning and design considerations of drainage unit for a double storey building.

15.a) Explain the following:

(1). Maintenance of building (8)

(2). Wiring in building (8)

(OR)

15.b) Explain the following:

(1). Colour washing and paintings (8)

(2). High performance coatings (8)

A cantilever of span  $L$  carries a concentrated load  $W$  at the free end. Find the slope and deflection at the free end using Castigliano's theorem.

(16)