

B.Arch. Part-III 5th Semester Examination, 2009-10

**Mechanical Services**  
**(ME-501A)**

**Time : 2 hours**

**Full Marks : 35**

*Use separate answerscript for each half.*  
*Answer FOUR questions, taking TWO from each half.*  
*The questions are of equal value.*

**FIRST HALF**

1. a) State advantages and disadvantages of Air-Refrigeration System.  
b) Draw a neat diagram for Absorption Refrigeration Cycle and explain its working.
2. a) What do you mean by Thermodynamics of Human Body?  
b) Draw a sketch for summer Air-conditioning System for hot and dry weather and discuss how it works.
3. Write short notes on any two of the following :
  - a) Air-cooled condensers
  - b) Psychrometric Chart
  - c) Required Properties of Ideal Refrigerant.

**SECOND HALF**

4. Draw the neat sketch showing the installation of Propeller and Centrifugal Fans for Ventilation System of a chemical plant.
5. Specify the details of Passenger Elevators in a public utility building with accessibilities of wheel chair for 1600 kg load capacity (21 persons).
6. Design fire escape routes mentioning basic principles in an apartment building.