

MEBS6008 Environmental Services II

<http://www.hku.hk/bse/MEBS6008/>

Exercise 03 – Space Air Diffusion

(* For self-evaluation, no need to submit.)

1. Define the following terms used in the design of space air diffusion.
 - i) Age of air
 - ii) Air change effectiveness
 - iii) Air diffusion performance index (ADPI)
 - iv) Confined air jet
 - v) Entrainment ratio

2. A rectangular room length 5 m, width 4 m and height 3 m is ventilated by a supply air flow rate of 100 l s^{-1} . Calculate the air exchange rate and the time constant of the supply air.

3. Briefly discuss the advantages and disadvantages of underfloor air distribution.

4. Briefly explain the main advantages and drawbacks of using cold air distribution with low-temperature supply air for HVAC systems.