

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

1. A workplace was found with a xylene (PEL-TWA=100ppm) consumption rate of 106g/h and acetone (PEL-TWA=50ppm) consumption rate of 56g/h, what is its required ventilation rate (unit: m³/min) while using the general exhaust ventilation as its control measure? Please also describe the assumptions made in your calculations. (20%)
2. What are mechanisms, causes and health effects associated with cumulative trauma disorders (CTDs)? (15%)
3. Please list 2 major biological hazards for each of the following occupational settings and explain why you propose such a nomination, either by the level of health risk or the degree of population impacts. (15%)
 - (a) Textile industry
 - (b) Nursing homes
 - (c) Indoor swimming pool

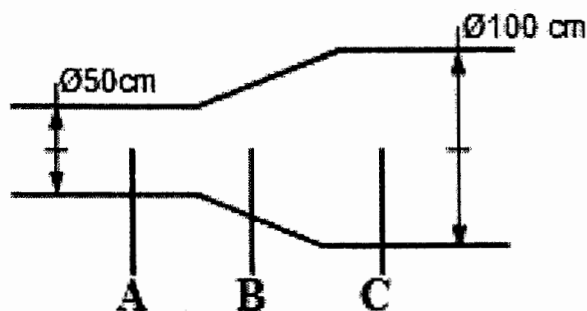
In addition, what is the general indoor air standard in Taiwan now for (5%)

 - (d) Airborne fungi? _____
 - (e) Airborne bacteria? _____

4. To the best of your knowledge, please list 3, among all the biological hazard, which have the more readily available and effective biomarkers that can be adopted for environmental epidemiology research or other application. (10%)

Biological hazard/agent	Biomarker of exposure	Biomarker of effect

5. Below is a portion of the ventilation duct. A, B, and C are three sampling points in the duct, please rank the wind speed from high to low measured at the three points (6%)? The diameter of the duct at A is 50 cm while the diameter of the duct at C is 100 cm, when the measured speed at A is 1 m/s, what is the speed measured at C? (9%)



6. Please compare the advantages and disadvantages of active and passive sampling in industrial hygiene? (10%)
7. Please list two ionizing and three non-ionizing radiation? (10%)