

※ 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. Please briefly describe the four kinds of blank samples and interpret the requirement of analytical level of blank sample. (15%)
2. Please describe the requirements for the setup of calibration curve. (10%)
3. Please define the internal standard and briefly describe its requirement. (10%)
4. What are components should be included in a written exposure assessment program? (15%)
5. What is ET (effective temperature)? How to measure ET in the field? What are its limitations? What is CET (corrected effective temperature)? How to measure CET in the field? What are its limitations? (15%)
6. List four factors that will affect the performance of sound level meter (SLM)? (10%)
7. Please list the advantage and disadvantage of direct reading instruments in air sampling. (5%)
8. Table 1 is an example of cascade impactor weight at different stages after sampling 10^6 L of air sample, what is the PM₁₀ ($\mu\text{g}/\text{m}^3$) (7%) and PM_{2.5} ($\mu\text{g}/\text{m}^3$)? (8%) Where would ultrafine particles be collected? (5%)

(提示: PM_{2.5} 可使用內插法求得)

Stage number	d_{50} (μm)	Net mass (mg)	Size range of collected particle(μm)
1	10	4.7	>10
2	5	5.5	5-10
3	2	9.1	2-5
4	1.2	6.2	1.2-2
5	0.6	1.8	0.6-1.2
Downstream filter		0.3	0-0.6

Table 1: Different stages of a cascade impactor