

※ 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. According to the public concern for the particle pollution (also known as "particulate matter") in the air includes a mixture of solids and liquid droplets.
 - (1) Please define what is fine particles and coarse particles and their sources in air pollution? (15%)
 - (2) Do you think which one is harmful for the human health, and describe the harmful effects? (15%)
2. For indoor air quality management,
 - (1) What are the major air pollutants and their sources in the indoor air in Taiwan? (10%)
 - (2) Could you provide any management strategies for controlling the indoor air quality? (10%)
3. What are the 5Rs in waste management? (5%) Please give an example of a policy linked to one of the 5Rs. (5%)
4. The EU 6 vehicle emission standard for diesel vehicle is 6×10^{11} particles/km. Assume that the emitted particle has density and diameter of 1.2 g/cm^3 and 100 nm, respectively. What is the equivalent mass concentration ($\mu\text{g}/\text{km}^3$)? (Please show your calculation) (10%)
5. Please write the equation for the depletion of the ozone layer? (10%)
6. Please list at least one similarity and one difference between BOD and COD? (10%)
7. What is biodiversity? (5%) Why do we need it? (5%)