

# 國立成功大學

## 115學年度碩士班招生考試試題

編 號： 185

系 所： 環境醫學研究所

科 目： 環境衛生

日 期： 0204

節 次： 第 2 節

注 意： 1.不可使用計算機  
2.請於答案卷(卡)作答，於  
試題上作答，不予計分。

1. Please describe the four major sources of the information for hazard identification and their priorities. (15 %)
2. Please define the term of “Environmental Inventory” and “Environmental Impact Assessment”? (10%) and briefly describe the five activities in the process of environmental impact assessment. (10%)
3. In general, which factors could influence the water consumption quantity in a particular community? (15 %)
4. Please use the following figure from the IPCC AR6 report (Forster, 2021) to explain global warming by the major contributing forcing agents and discuss their uncertainties. (15%)

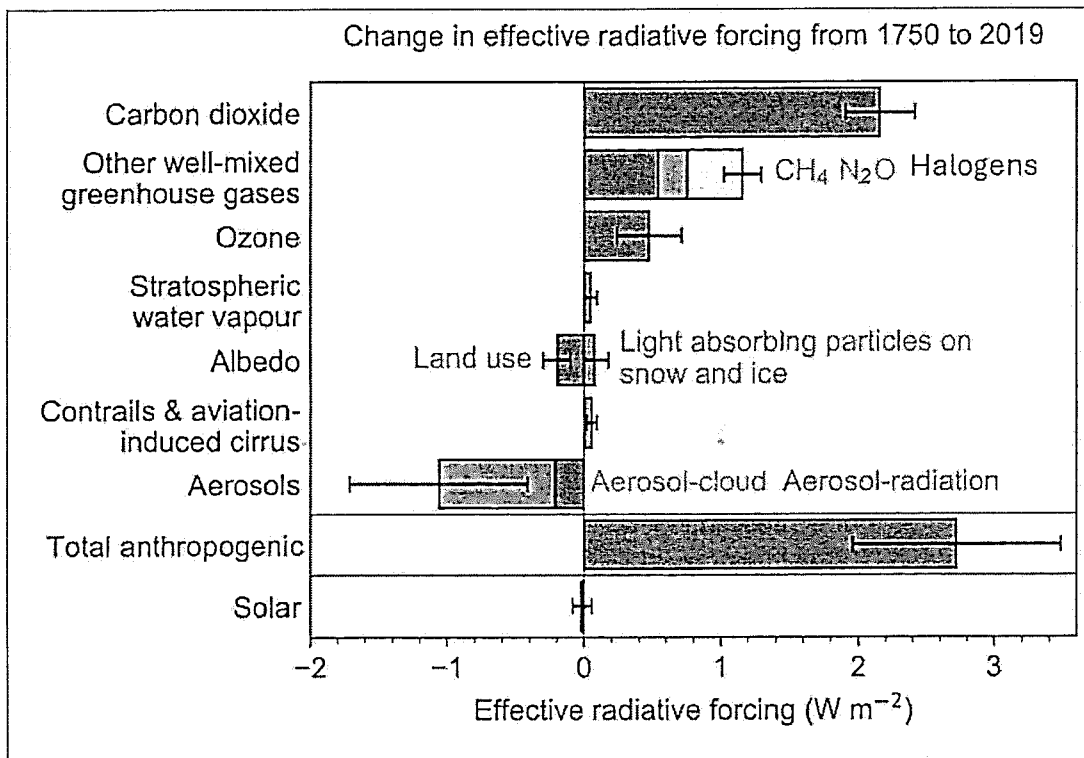


Figure 1 | Change in effective radiative forcing (ERF) from 1750 to 2019 by contributing forcing agents (carbon dioxide, other well-mixed greenhouse gases (WMGHGs), ozone, stratospheric water vapour, surface albedo, contrails and aviation-induced cirrus, aerosols, anthropogenic total, and solar). Solid bars represent best estimates, and *very likely* (5–95%) ranges are given by error bars. Non-CO<sub>2</sub> WMGHGs are further broken down into contributions from methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O) and halogenated compounds. Surface albedo is broken down into land-use changes and light-absorbing particles on snow and ice. Aerosols are broken down into contributions from aerosol–cloud interactions (ERF<sub>aci</sub>) and aerosol–radiation interactions (ERF<sub>ari</sub>). Volcanic forcing is not shown due to the episodic nature of volcanic eruptions.

5. Please draw a figure and explain the working principles of a condensation particle counter. (10%) Why can the condensation particle counter be used to detect nanoparticles? (5%)
  
6. A worker is using liquid nitrogen (100 liters) to cool the equipment. The factory is 20 m wide, 50 m long, and 5 m high. The HVAC system exhausts 20% of the air while bringing in 15% of outside air. The room has 6 air changes per hour. How much air is exhausted outdoors? (10%) What are the two major occupational health hazards the worker may face, and how can they be solved? (10%)