

國立臺北科技大學 100 學年度碩士班招生考試

系所組別：3220 環境工程與管理研究所乙組

第一節 環境科學 試題

第一頁 共三頁

注意事項：

1. 本試題共 25 題，每題 4 分，配分共 100 分。
2. 請標明大題、子題編號作答，不必抄題。
3. 全部答案均須在答案卷之答案欄內作答，否則不予計分。

MULTIPLE CHOICE: 1 – 20

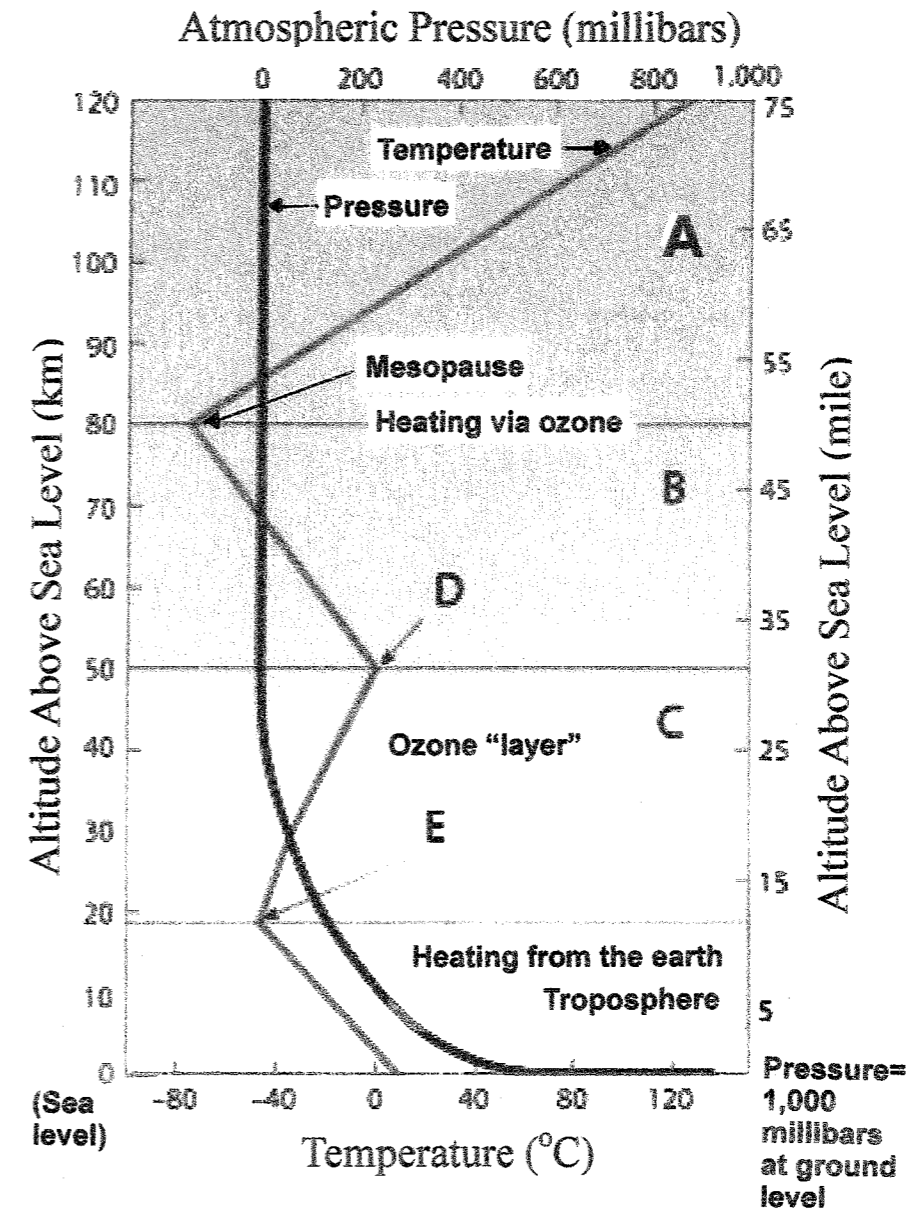
1. If a country's ecological footprint is larger than its biological capacity to replenish its renewable resources and absorb the resulting waste and pollution:
 - a. It is said to have an ecological deficit.
 - b. It should be supported by other countries with smaller footprints.
 - c. It is said to be a sustainable society.
 - d. It is most likely a developing country.
 - e. More than one of these answers is correct.
2. Which of the following is a major factor contributing to the degradation of natural capital associated with the pricing of consumable goods?
 - a. They are priced in such a way that they do not reflect the environmental damage caused by their production.
 - b. They are priced in such a way as to allow even those in poverty in developing nations to acquire them.
 - c. They are priced in such a way that only the most affluent purchaser is able to acquire them.
 - d. Consumers are typically aware of the kinds of environmental damage resulting from the production of the item.
 - e. None of these answers.
3. Which of the following choices best describes the sequence scientists typically use in the beginning stages of their investigations about how nature works?
 - a. analyze data -> search literature -> perform experiment -> identify a problem -> ask a question
 - b. ask a question -> search literature -> perform experiment -> analyze data -> identify a problem
 - c. search literature -> ask a question -> identify a problem -> analyze data -> perform experiment
 - d. identify a problem -> search literature -> ask a question -> perform experiment -> analyze data
 - e. ask a question -> search literature -> identify a problem -> perform experiment -> analyze data
4. Transfer of carbon among organisms depends primarily on
 - a. fuel combustion and decomposition
 - b. photosynthesis and cellular respiration
 - c. soil bacteria and precipitation
 - d. volcanic activity and organic decay
 - e. the rock cycle
5. Perhaps the most important thing about Rachel Carson's investigative work on the environmental effects of pesticides, and her publication "Silent Spring," is
 - a. the number of errors in the book
 - b. her failure to include a discussion about Integrated Pest Management
 - c. that it laid the groundwork for later, more serious work
 - d. that it eventually led to the banning of many pesticides in the United States and other countries
 - e. that it is a remarkable book considering it was written by a person without any scientific training
6. Throughout the world, the most water is used for
 - a. irrigation
 - b. industrial processes
 - c. needs of animals and humans
 - d. transportation
 - e. cooling towers of power plants
7. Assume you are vacationing by a small lake, where you intend to do some fishing. When you arrive at this lake, you notice a slight sulfur smell. Which phase of cultural eutrophication does this sulfur smell indicate?
 - a. An algal bloom.
 - b. Anaerobic bacteria are decomposing the aerobic organisms.
 - c. Aerobic bacteria are decomposing the algae.
 - d. Fish have died from lack of oxygen.
 - e. None of these answers.

注意：背面尚有試題

8. The leading renewable energy source that is used to produce electricity today is
- solar energy
 - hydropower
 - wind power
 - biomass
 - geothermal
9. Which environmental problem is among the five leading causes of death worldwide?
- El Niño
 - air pollution
 - water pollution
 - toxic waste
 - nuclear waste
10. Which of the following is categorized as a secondary pollutant?
- carbon monoxide
 - ozone
 - carbon dioxide
 - sulfur dioxide
 - hydrocarbons
11. Ozone is beneficial in the stratosphere but harmful in the lower troposphere. Ironically, human activities are causing ozone to
- decrease in the stratosphere and increase in the lower troposphere
 - increase in the stratosphere and decrease in the lower troposphere
 - level out to equilibrium in both areas so there is no substantive difference between them
 - Human activities are not causing any changes in ozone concentrations anywhere.
 - bond with nitrous oxides to form acid rain
12. According to WHO (World Health Organization) and World Bank experts, indoor air pollution is
- the world's most serious air pollution problem
 - the world's least serious air pollution problem
 - a serious problem in poor countries, but no problem in affluent countries
 - more than one of these
 - none of these answers
13. The effectiveness of the pollution prevention approach is *best* illustrated by the 97% drop in atmospheric
- ozone
 - sulfur dioxide
 - lead
 - carbon monoxide
 - nitrogen oxide
14. Which of the following would make a greater contribution to rising sea levels?
- melting sea ice
 - melting land-based ice
 - increased levels of precipitation in some areas
 - increased levels of atmospheric water vapor
 - increased levels of global evaporation and transpiration
15. Which category most accurately describes waste such as food wastes, cardboard, cans, bottles, yard wastes, furniture, plastics, metal, glass, and e-waste?
- e-waste
 - municipal waste
 - solid waste
 - industrial waste
 - municipal solid waste
16. Which is the *most* advanced approach?
- recycling materials
 - using biodegradable material
 - creating more durable products
 - reducing the amount of materials used
 - reusing materials
17. Critics of recycling are *most* likely to claim:
- It isn't worth the effort.
 - There is no solid-waste problem.
 - Incineration is the safest and most efficient way to dispose of solid wastes.
 - It doesn't make sense to recycle if it costs more than sending wastes to a landfill or an incinerator.
 - There is abundant landfill space in all areas.

18. The Superfund program paid
- to identify and clean up hazardous-waste dump sites
 - to monitor hazardous wastes
 - for testing for lead in paint, water, and air samples
 - the doctors' bills and lawyers' fees for pollution events
 - all of these answers
19. The idea that everyone is entitled to protection from environmental hazards regardless of race, gender, age, national origin, income, social class, or any political factor is called
- environmental racism
 - environmental sustainability
 - environmental policy
 - environmental justice
 - none of these answers
20. A citizen-based global sustainability movement that is emerging is comprised of
- a loosely connected worldwide network of grassroots NGOs
 - regulatory agencies within governments that oversee environmental laws
 - special interest groups that lobby for restriction of environmental laws
 - environmentalists that have won elections
 - a well-funded movement to change the way public lands are used in the U.S.

MATCHING: 21 – 25



- On the atmospheric layers figure, choose the letter that represents the boundary in the atmosphere between the troposphere and the stratosphere.
- On the atmospheric layers figure, choose the letter that represents the area where air would be thin and temperatures vary greatly with solar activity.
- On the atmospheric layers figure, choose the layer that contains ozone, which keeps approximately 95% of the sun's ultraviolet radiation from reaching the Earth's surface.
- On the atmospheric layers figure, choose the layer that represents the separation of the mesosphere and stratosphere.
- On the atmospheric layers figure, choose the layer that represents part of the middle atmosphere in which temperatures vary greatly with altitude.