

Environmental Studies (NS2002)

Date: 2025

Course Instructor

Prof. Dr. Saman Shahid

FINAL Exam

Total Time (Hrs): 2.5

Total Marks: 80(45%)

Total Questions: 4

Question 4: Encircle ONLY one correct

option on the answer sheet. [20 marks] CLO#4

1) Major gases in the atmosphere include all of the following EXCEPT:

- a) nitrogen
- b) oxygen
- c) helium
- d) carbon dioxide
- e) argon

2) Proxy data is often used to study past climates. Which of the following is NOT an example of proxy data?

- a) tree rings
- b) stable isotopes of oxygen from ice cores
- c) corals
- d) data from the atmospheric observatory on Mauna Loa volcano
- e) hydrogen from ice cores

3) Climate is a description of:

- a) atmospheric conditions for short periods of time (hours, days, weeks)
- b) the relative warmth or coldness of materials
- c) an area's average temperature and precipitation over a long period of time
- d) force per unit area
- e) the composition of the atmosphere

4) The geologic record provides a historic examination of average concentrations of atmospheric carbon dioxide as measured from:

- a) fossil fuels
- b) volcanic lava
- c) marine shells
- d) sediments deposited on floodplains
- e) glacial ice bubbles

5) Which of the following types of electromagnetic radiation has the shortest wavelength?

- a) radio waves
- b) gamma rays
- c) microwaves
- d) ultraviolet light
- e) visible light

6) The phenomenon of the greenhouse effect is a result of:

- a) gases absorbing infrared radiation and re-emitting it, trapping heat
- b) the ozone selectively absorbing visible light
- c) urban areas being heat islands
- d) a period of days or weeks of unusually hot weather
- e) increased hydrocarbons selectively absorbing ultraviolet rays

7) Identify the greenhouse gas that is responsible for nearly 85% of total greenhouse warming.

- a) methane
- b) nitrous oxide
- c) water vapor
- d) carbon dioxide
- e) chlorofluorocarbons

8) Increased CO₂ concentration with warming might similarly stimulate growth of land plants, leading to increased CO₂ absorption and reducing the greenhouse effect. This is an example of:

- a) a positive feedback loop
- b) a negative feedback loop
- c) climate forcing
- d) sublimation
- e) both b and d

9) Chlorofluorocarbons (CFCs) are:

- a) released into the atmosphere by car exhaust
- b) not considered greenhouse gases
- c) highly unstable gases with a short residence life in the atmosphere
- d) capable of absorbing much more infrared radiation from Earth than CO₂
- e) released into the atmosphere by fossil fuel smoke stacks

10) According to results of atmospheric testing originally published in 1973, the major cause of the gradual warming of Spring 2025

Earth's atmosphere was due to:

- a) an increase in the amount of nitrogen in the atmosphere
- b) an increase in the amount of carbon dioxide in the atmosphere**
- c) an increase in cloud cover of the Earth
- d) increased solar activities
- e) a decrease in cloud cover of the Earth