

- 1) Which radiation that is most harmful to human health is intercepted by the ozone layer?
 - a) UV-A
 - b) UV-B**
 - c) UV-E
 - d) UV-D

- 2) Which chemical element that is a component of CFC's contributes to the destruction of the ozone layer?
 - a) Chlorine**
 - b) Fluor
 - c) Carbon
 - d) Oxygen

- 3) At which of the following latitudes would exposure to harmful UV radiation be the greatest?
 - a) 5° South**
 - b) 32° North
 - c) 48° South
 - d) 72° North

- 4) Which of the following is a characteristic of a skin lesion characteristic of a melanoma?
 - a) Symmetry
 - b) Border regularity
 - c) Dark colour
 - d) Diameter of 6 mm, or more – CANCELLED – Two correct options**

- 5) Which protocol was the first agreement aiming at reducing emissions of CFC's, to let the ozone layer recover?
 - a) Paris Accord
 - b) Kyoto Accord
 - c) Montreal Protocol**
 - d) Copenhagen Protocol

- 6) By which of the following effects associated to air pollution are most people affected?
- a) Symptoms
 - b) Effects requiring emergency room visits
 - c) Effects requiring the use of medication
 - d) **Subclinical effects**
- 7) UVR exposure can act as a co-factor in the development of carcinoma induced by which of the following viruses?
- a) **HPV**
 - b) HCV
 - c) HBV
 - d) Influenza H1N1
- 8) During the period 1990-2013, the concentration of which of the following air pollutants has increased in Canada?
- a) CO
 - b) **NH₃**
 - c) SO_x
 - d) NO_x
- 9) Which of the following cities does not meet the World Health Organization's air quality standards?
- a) Toronto, Canada
 - b) **Beijing, China**
 - c) Montreal, Canada
 - d) New York City, USA
- 10) Which of the following is a natural source of air pollution?
- a) **Volcanic eruptions**
 - b) Automobile exhausts
 - c) Gas emissions from industrial plants
 - d) Industrial paint

11) In which of the following countries has the highest rate of mortality associated to indoor smoke from solid fuels?

- a) Canada
- b) France
- c) **India**
- d) Australia

12) Which of the following health effects from air pollution does MOST of the population suffer from?

- a) Symptoms
- b) Reduced physical performance
- c) Mortality
- d) **Subclinical effects – CANCELLED –Question 6 Repeated**

13) Which of the following fuels used by simple stoves, contribute to poor indoor air quality?

- a) Coal
- b) Straw
- c) Crops
- d) a and b
- e) **a, b, and c**

14) Which of the following forms of air pollution are expected to worsen as a result of climate change?

- a) Smoke and dust from wildfires
- b) Photochemical smog
- c) Dust storms
- d) a and c
- e) **a, b, and c**

15) Which of the following is a requirement for the development of wetland soils?

- a) Excellent drainage for saturation to occur
- b) Abundance of oxygen
- c) **Growth of adapted vegetation**
- d) Temperature always above 20°C

- 16) Which of the following is a regulating service provided by wetlands?
- a) Wildlife habitat
 - b) Production of peat
 - c) Source of food (fish, game)
 - d) **Decontamination of water**
- 17) In the study on the role of wetlands in human health, the study site (the Ottawa National Wildlife Refuge) is located on the shores of which one of the Great Lakes?
- a) Lake Ontario
 - b) Lake Huron
 - c) Lake Michigan
 - d) **Lake Erie**
- 18) Which water quality variable showed the strongest correlation with location, as water flowed through the study site (the Ottawa National Wildlife Refuge), in the study on the role of wetlands in human health?
- a) ***E. coli* CFU counts**
 - b) Total Phosphorus
 - c) Total Nitrogen
 - d) Total Sulfur
- 19) Which of the following is NOT an option to improve the status of wetlands?
- a) Payments for ecosystem services provided by wetlands
 - b) **Decreased emphasis on the use of the natural environment and nonstructural measures for flood control**
 - c) Reduce overuse of nutrients
 - d) Investments in agricultural science and technology
- 20) What does biodiversity take into account?
- a) Species
 - b) Genes
 - c) Populations
 - d) **a, b, and c**

- 21) From which plant is aspirin derived from?
- a) Opium poppy
 - b) White willow tree**
 - c) Rosy periwinkle
 - d) Maple tree
- 22) The emergence as a human pathogen of which of the following viruses has been linked to deforestation?
- a) Hepatitis B Virus
 - b) Herpes Simplex Virus
 - c) Nipah Virus**
 - d) Norwalk virus
- 23) In which manner does biodiversity can assist agriculture?
- a) Through the pollination of crops
 - b) Genetic diversity provides greater resilience to the system
 - c) By providing controls on agricultural pests
 - d) a and b
 - e) a, b, and c**
- 24) Which of the following categories of species have gone through a decline in their diversity since 1970?
- a) Marine species
 - b) Terrestrial species
 - c) Freshwater species
 - d) a and c
 - e) a, b, and c**
- 25) Which of the following is a provisioning service provided by ecosystems, that is important to human well-being?
- a) Soil formation
 - b) Flood regulation by wetlands
 - c) Nitrogen Cycling
 - d) Fisheries**

- 26) Which of the following areas will see an increase in crop productivity by 2050, according to model projections?
- a) Southeast Asia
 - b) **Northern Europe**
 - c) North Africa
 - d) Australia
- 27) Which of the following describes what the velocity of climate change is?
- a) The rate at which species have to adapt to a new range of temperature, in their old habitats, due to climate change
 - b) The rate at which species have to adapt to a new range of precipitation, in their old habitats, due to climate change
 - c) **The rate at which species are moving to new habitats, as their old one is no longer suitable due to climate change**
 - d) The rate at which global temperature is changing, year after year.
- 28) Which of the following infectious diseases is expected to have a greater incidence as a result of ecosystem changes?
- a) Leishmaniasis
 - b) Meningitis
 - c) Rift Valley fever
 - d) a and b
 - e) **a, b, c**
- 29) Which of the following processes is expected to alter the availability of shellfish, according to climate projections for a business-as-usual scenario?
- a) Sea water temperature increase
 - b) **Ocean acidification**
 - c) Alteration of ocean currents
 - d) Introduction of invasive species
- 30) Which of the following is NOT a component of the planetary boundary framework?
- a) Freshwater use
 - b) Stratospheric Ozone depletion
 - c) **Use of mineral resources**
 - d) Atmospheric aerosol loading

- 31) Which of the following is indirectly affected by climate change?
- a) **Water quality**
 - b) Occurrences of droughts
 - c) Storms
 - d) Floods
- 32) Which of the following is a component of social dynamics affected, indirectly, by climate change?
- a) Respiratory diseases
 - b) Poisoning
 - c) Allergies
 - d) **Public health infrastructure**
- 33) In which of the following countries has the yield of wheat been most reduced, as a result of climate change, during the period 190-2008?
- a) Canada
 - b) United States of America
 - c) **Brazil**
 - d) Australia
- 34) What is expected to happen to the price of maize (corn) in the future, in Africa, as a result of climate change?
- a) **It will increase**
 - b) It will decrease
 - c) It will remain stable
 - d) It will fluctuate
- 35) Which of the following is the LEAST influential factor, as a driver of migration triggered by climate change?
- a) Political change
 - b) **Social changes**
 - c) Environmental changes
 - d) Economic changes