

OLD DOMINION UNIVERSITY
COLLEGE OF HEALTH SCIENCES
COMMUNITY AND ENVIRONMENTAL HEALTH PROFESSIONS

**ENVH 301
PRINCIPLES OF ENVIRONMENTAL HEALTH
MID-TERM EXAM**

96%

Student Name: _____ **MELINDA PIERCE** _____
I will abide by the ODU Honor Code : _____ **MP** _____

Please highlight, bold, or enter the correct answer for the questions below. This is an open book exam.

Multiple Choice Bold or highlight correct answer. 2 points each

1. Who is sometimes referred to as the Columbus of statistics because his book made a fundamental contribution by attempting to demonstrate the quantitative characteristics of birth and death data?

- A) Paracelsus
- B) Agricola
- C) John Graunt**
- D) Percival Pott

2. Just before the commencement of the 1800s, Jenner devised a method for vaccinating against what communicable disease?

- A) Cholera
- B) Plague
- C) Malaria
- D) Smallpox**

3. Major William Gorgas was dispatched to Havana, Cuba to implement a highly successful eradication program after what disease was determined to be a mosquito-borne affliction?

- A) Cholera
- B) Malaria

- C) Smallpox
- D) Yellow fever

4. What occupation requires training in the epidemiologic and biological aspects of environmental hazards and also in toxicology?

- A) Industrial hygienist page 24 -2 points
- B) Environmental toxicologist
- C) Environmental health inspector
- D) Vector control specialist

5. The exposé written by what man was instrumental in the passage of the first Food and Drug Act that was instituted in the United States in 1906?

- A) John Snow
- B) Upton Sinclair
- C) Walter Reed
- D) Henry David Thoreau

6. Rachel Carson published *Silent Spring*, which highlighted the potential dangers of which of the following?

- A) Pesticides
- B) Air pollution
- C) Water contamination
- D) Radiation

7. What term refers to the alteration over time in a population's fertility, mortality, and makeup?

- A) Urbanization
- B) Forced migration
- C) Demographic transition
- D) Epidemiologic transition

8. Which of the following, regarded as the fundamental approach by epidemiologists, aims to delineate the patterns and manner in which disease occurs in populations?

- A) Cohort studies
- B) Analytic studies
- C) Prospective studies
- D) Descriptive studies

9. What type of measures are used to describe the scope and distribution of health outcomes in the population?

- A) Incidence measures
- B) Prevalence measures
- C) Morbidity measures
- D) Mortality measures

10. What type of measures are central to the study of causal mechanisms with regard to how exposures affect health outcomes?

- A) Incidence measures
- B) Prevalence measures
- C) Morbidity measures
- D) Mortality measures

11. What route of chemical exposure will typically result in the fastest and strongest chemical effects?

- A) Dermal exposure
- B) Oral exposure
- C) Inhalation of the chemical
- D) Intravenous administration of the chemical

12. What phase of the policy cycle often is neglected in favor of earlier phases of policy development?

- A) Agenda setting
- B) Policy establishment
- C) Policy implementation
- D) Assessment/evaluation

13. Which of the following is the most deadly type of malaria that may produce kidney failure, seizures, mental confusion, coma, and ultimately death?

- A) *Plasmodium vivax*
- B) *Plasmodium ovale*
- C) *Plasmodium malariae*
- D) *Plasmodium falciparum*

14. Low-level chronic exposure to arsenic is associated with what medical condition, which is a dermatologic condition that can cause darkening of the skin of the entire body?

- A) Keratosis
- B) Melanosis
- C) Hyperhidrosis
- D) Dermatomyositis

15. Which of the following types of insecticides is derived from natural sources, namely certain varieties of chrysanthemum flowers?

- A) DDT
- B) Pyrethrins
- C) Atrazine
- D) Paraquat

Very good!

True/False Bold or highlight correct answer 1 point each

16. True or False? The outcome variables in epidemiologic research includes contact with toxic substances, potential carcinogens, or air pollution.

17. True or False? Incidence measures are used to describe the scope and distribution of health outcomes in the population. **-1 point**

18. True or False? Early epidemiology shares with contemporary epidemiology the frequent lack of complete knowledge of the specific agents of environmentally associated diseases.

19. True or False? Lethality tests are becoming rare in research due to the availability of less destructive methods of study.

20. True or False? Because of the advent of clinical trials, new drugs entering the marketplace can cause no harm to humans.

21. True or False? The quality of exposure assessment data determines the accuracy of risk assessments and therefore is a limiting factor in the risk assessment process.

22. **True** or False? From the world perspective, the built environment is increasing dramatically as formerly rural and agricultural economies transition to industrialized economies.

23. True or **False**? The polluter-pays principle is applied when the weight of scientific evidence suggests that a chemical is suspected of having adverse health consequences, even though such health effects have not been established definitively.

24. **True** or False? In the United States, the EPA is responsible for protecting human health and safeguarding the natural environment including air, land, and water.

25. **True** or False? Although the case fatality rate for untreated cutaneous anthrax ranges from 5% to 20%, the disease can be treated effectively with antibiotics.

26. True or **False**? Malaria cases are confined to endemic areas as they are unable to be imported into nonendemic areas by refugees and immigrants.

27. **True** or False? Among children, inadequate dietary intake of zinc is correlated with low socioeconomic status.

28. True or **False**? The film *Erin Brockovich* called attention to the potential hazards associated with groundwater pollution from mercury.

29. **True** or **False**? Although pesticides in the organophosphate class are implicated frequently in fatal poisoning incidents, carbamates are rarely a source of mortality from poisoning. **-1 point**

30. **True** or False? In the developing world, people continue to consume foods that contain much higher levels of DDT and organochlorine pesticides than are permitted in the developed world.

Short Answer Insert short answer into blank. 2 points each

31. Some environmental studies use biomarkers that may be correlated with exposures to potential carcinogens and other chemicals. One marker is called **_sister chromatid**

exchange, which refers to reciprocal changes of DNA between pairs of DNA molecules.

32. risk characterization presents the policy maker with a synopsis of all the information that contributes to a conclusion about the nature of the risk and evaluates the magnitudes of the uncertainties involved and the major assumptions that were used.

33. Some genetically predisposed persons may be prone to chemical idiosyncrasy meaning that they have either extreme sensitivity to low doses of a chemical or insensitivity to high doses.

34. The precautionary Principles suggests that policy makers should err on the side of “an ounce of prevention” and take protective measures even when full scientific certainty is lacking.

35. The HIA incorporates a plan for the meticulous evaluation and continuous monitoring of possible adverse outcomes, such as increases in poverty, undue damage to the environment, detriments to the social fabric, and increases in morbidity from infectious and other diseases.

36. The National Institute of Environmental Health Science (NIEHS) is home to the national toxicology program, the nation’s premier program for testing and evaluating of agents in our environment.

37. Part of the chain in transmission of infectious disease agents, vectors include various species of rodents (rats and mice) and arthropods (mosquitoes, ticks, sand flies, biting midges).

38. The viruses that cause most viral hemorrhagic fevers are zoonoses, referring to the fact that they require an animal or insect host as a natural reservoir.

39. One of the most widely distributed vectors and the main host for the hantavirus is the deceptively cute deer mouse, *Peromyscus maniculatus*, which is found throughout North America.

40. One of the conditions attributed to cadmium is known as itai-itai disease.

41. Because of its potential to cause lung cancer, chromium has been classified by the World Health Organization and the EPA as a human carcinogen.

42. Government agencies have warned that certain types of fish, such as shark, swordfish, tilefish, and king mackerel, may contain dangerously high levels of mercury.

43. The herbicide agent orange was applied by the US military as a defoliant in Vietnam during the Vietnam War of the 1960s and early 1970s to prevent the thick jungle foliage from concealing the enemy.

44. The Food and Agricultural Organization of the United Nations notes that honey bees pollinate more than 70% of the 100 crop species that contribute 90% of global foods.

45. The World Health Organization refers to dioxins as members of the “dirty dozen club.”

Very good!

Essay Enter the correct answer with at least 2-3 sentences or more. 5 points each

46. The direct adverse effects of exposures to chemicals range from local effects, to systemic effects, to target organ effects. Explain local, systemic, and target organ effects.

-Local effects are damage at the site where a chemical first comes into contact with the bod

-systemic effects are adverse effects associated with generalized distribution of the chemical through out the body by the bloodstream to the internal organs.

-target effects when chemical confine their effects to the specific organ

Good!

47. Explain how policies for the built environment have great potential for influencing public health.

The built environment refers to the roads, parks, and buildings. As the built environment adopt public policies this is in an effort to stimulate people to walk more or use public transportation. Building more business and shopping center so that they are more local where people can ride bikes or walk there is helping to cut down on air pollution from cars thus influencing the public health.

Would be nice!

48. Discuss the reason why the funding for malaria spraying programs was withdrawn.

-evidence was gather that reported DDT to be harmful to birds, and other wild life species and was opposed by many developing nations.

Exactly!

49. Explain the significance of iron to human health.

-iron is important to the growth of cells and the transport of oxygen with in the circulatory system. About 66% of our iron in our bodies is used in hemoglobin. Hemoglobin is the red blood cells protein that's responsible for transporting oxygen.

50. Discuss the acute and long-term effects of organophosphate poisoning.

Acute effects:

**-nerves and muscles may become uncoordinated,
-respiratory paralysis and weakness,
-neurological system such as seizures, loss of consciousness,
-craps in the abdomen
-Extreme cases (death)**

Long term -organophosphate-induced delayed poly-neuropathy

-manifest by numbness, loss of sensory abilities, weakness

Nasty symptoms!