

UGANDA MARTYRS UNIVERSITY
FACULTY OF HEALTH SCIENCES
END SEMESTER II, YEAR I EXAMINATIONS 2023/24
BACHELOR OF SCIENCE PUBLIC HEALTH/ BACHELOR OF SCIENCE
HEALTH PROMOTION AND EDUCATION
BSHPE 1202: INTRODUCTION TO ENVIRONMENTAL HEALTH
BPHP 2327: ENVIRONMENTAL HEALTH
Date: 10th August 2024 **Time: 9:00am-12:00pm**

Instructions: Answer all questions in both sections.

SECTION A: (60MARKS) CHOOSE THE MOST CORRECT ALTERNATIVE (USE THE SPACE BELOW

1.		11.		21		31		41		51	
2.		12		22		32		42		52	
3.		13		23		33		43		53	
4.		14		24		34		44		54	
5.		15		25		35		45		55	
6.		16		26		36		46		56	
7.		17		27		37		47		57	
8.		18		28		38		48		58	
9.		19		29		39		49		59	
10		20		30		40		50		60	

1. Gas molecules that absorb thermal infrared radiation and are present in large quantity to change climate system are known as;
 - A. Alpha radiations
 - B. Beta radiations
 - C. Ozone gases
 - D. Greenhouse gases
2. Greenhouse gases which is present in very high quantity is
 - A. Propane
 - B. Ethane
 - C. Carbondioxide
 - D. Methane
3. The Layer of atmosphere in which Ozone layer lies is
 - A. Exosphere
 - B. Mesosphere
 - C. Troposphere
 - D. Stratosphere
4. The Layer which saves life from harmful effects of UV radiations is known as;

- A. Ozone layer
 - B. Alpha layer
 - C. Gamma layer
 - D. Infrared layer
5. The name of protocol signed to reduce production of chlorofluorocarbons is
 - A. UVB protocol
 - B. Montreal Protocol
 - C. UVA protocol
 - D. UVR protocol
 6. The burning of fossil fuels
 - A. Decrease greenhouse gases
 - B. Increases greenhouse gases
 - C. Increased level of oxygen
 - D. Increased level of ethane
 7. Which of the following is a practice used to reduce and manage MSW?
 - A. Waste combustion
 - B. Source reduction
 - C. Recycling of materials
 - D. All of the above
 8. The presence of _____ in a water body is an indicator of water pollution.
 - A. Zygosporangium
 - B. E.Coli
 - C. Deinococcus radiodurans
 - D. None of the above
 9. Which of the following is not a source reduction activity?
 - A. Products package reuse
 - B. Reducing use by modifying practices
 - C. Saving energy by using recycled materials
 - D. Package or product design that reduces material or toxicity
 10. Which of the following is NOT a major option for managing hazardous waste?
 - A. Reducing the production of waste while increasing the amount generated.
 - B. Reducing the volume and/or hazard of the waste.
 - C. Long-term storage or disposal.
 - D. Dumping at sea.
 11. Which one of the following is mostly required in secure landfills?
 - a. Single liners
 - b. Groundwater monitoring
 - c. Financial guarantees for post-closure activities
 - d. A leachate collection system
 12. Investigation of a restaurant named in a food-borne illness complaint is most likely to identify a food safety problem for which of the following?
 - A. One person reported becoming ill after eating at the restaurant.
 - B. Family members ate at the restaurant and developed diarrhea 6 hours later.
 - C. Three friends became ill with vomiting within 4 hours of eating fried rice at the restaurant.
 - D. Two people became ill (one with a migraine headache and one with diarrhea) after eating at the restaurant.
 13. Which of the following are involved in the hydrological cycle?

- A. The sun
 - B. The atmosphere
 - C. The water
 - D. All of the above
14. Which one of the following steps will best prevent flies contaminating food?
- A. Place food away from open windows.
 - B. Cover food with cling film.
 - C. Place food away from waste food bins.
 - D. Place food away from raw food.
15. The main steps of water treatment include which of the following?
- A. Sedimentation
 - B. Filtration
 - C. Disinfection
 - D. All of the above
16. Which of the following disease causing organisms is not vector borne?
- A. *Plasmodium falciparum*
 - B. *Onchocerca volvulus*
 - C. *Entamoeba histolytica*
 - D. *Dracunculus medinensis*
17. Which of the following is NOT a major option for managing hazardous waste?
- A. Reducing the production of waste while increasing the amount generated.
 - B. Reducing the volume and/or hazard of the waste.
 - C. Long-term storage or disposal.
 - D. Dumping at sea.
18. Which of the following is a prime health risks associated with greater UV radiation through the atmosphere due to depletion of stratospheric ozone?
- A. Damage to digestive system
 - B. Increased liver cancer
 - C. Neurological disorder
 - D. Increased skin cancer
19. Which one of the following statements explains what is meant by the term 'Clean as you go'?
- A. Clean down before you leave for home.
 - B. Clean up before moving on to the next task.
 - C. Once a year thoroughly clean the premises.
 - D. Clean up every hour throughout the day.
20. Wastewater from different sources like bathrooms, kitchens and wash basins that doesn't contain human excreta is called _____
- A. Sewage
 - B. Garbage
 - C. Sullage
 - D. Discharge
21. Which of the following undesirable and waste material is neither gas nor liquid?
- A. Water waste
 - B. Oxygen
 - C. Liquid waste
 - D. Solid waste
22. Which of the following conditions is not suitable for the disposal of excreta or sewage?

- A. It should be accessible for children
 - B. The waste does not pollute the ground surface
 - C. It is not exposed to the atmosphere
 - D. It does not give odour nuisance
23. Which of the following is an advantage of the conservancy system over water carriage system?
- A. Labour force
 - B. Water consumption
 - C. Compact house design
 - D. Spread of epidemic
24. Which of the following is not considered biomedical waste?
- A. Microbiological waste
 - B. Chemical waste
 - C. Domestic waste
 - D. None of the above
25. Which of the following is not a waste treatment method for biomedical wastes?
- A. Incineration
 - B. Chemical disinfecting
 - C. Autoclaving
 - D. Sieving
26. Cytotoxic waste should be placed in which container?
- A. Brown Container
 - B. Grey Container
 - C. Red Container
 - D. White Container
27. Which of the following is not a high heat system for treating biomedical waste?
- A. Inertization
 - B. Incineration
 - C. Autoclaving
 - D. Dry heat sterilization
28. What are the major consequences of Tropical cyclones?
- A. Fierce wind
 - B. Heavy rain
 - C. Storm surge
 - D. All of the above
29. Disasters frequently result in all of the following EXCEPT
- A. Sustained public attention during the recovery phase
 - B. Displacement of populations
 - C. Destruction of a population's homeland
 - D. Damage to the ecological environment
30. The argument that the 'polluter pays' principle is ineffective in terms of reducing pollution is because it is argued that:
- A. Richer consumers can simply afford to pay and so essentially pollution will still continue to rise. correct
 - B. It is unfair to penalise richer consumers who will pay more of the taxes. incorrect
 - C. The 'polluter pays' principle cannot solve environmental problems on its own. incorrect
 - D. It is impossible to work out the size of the necessary tax. incorrect
31. Measuring BOD (biological oxygen demand) is primarily used for

- A. Estimating the types of microbes
 - B. Determine the level of dissolved oxygen
 - C. Estimating the quantity of organic matter in sewage water
 - D. None of the above
32. In comparison to pure water, Boiling point of impure water
- A. Is same
 - B. Increases
 - C. Decreases
 - D. First decreases then increases
33. What do we mean when we say 'think globally, act locally' in relation to environmental problems?
- A. Global environmental problems are essentially issues which need to be solved by international negotiations.
 - B. Environmental problems have to be thought about at a global level in order to get an accurate idea of the total problem facing us.
 - C. Extensive research and thinking has been carried out by global-level research organizations about the causes of environmental problems, which have produced possible strategies and actions which can be applied at a local level.
 - D. While these problems, as we experience them in relation to sustainability issues, are produced by processes operating at a global level, we all have a role to play in our local context in making individual and collective responses, as communities and companies, which will help ameliorate the effects of these problems.
34. Estimating the area of productive land or aqua system required to sustain a population at its specified standard of living' creates what?
- A. Epistemic community.
 - B. Global environmental common.
 - C. Ecological footprint.
 - D. Convention.
35. Which of the following was the main purpose behind setting up the Central Pollution Control Board (CPCB)?
- A. The main purpose of the Central Pollution Control Board was to regulate air pollution
 - B. The main purpose of the Central Pollution Control Board was to regulate water pollution
 - C. The main purpose of the Central Pollution Control Board was to regulate noise pollution
 - D. The main purpose of the Central Pollution Control Board was to regulate deforestation
36. The human activity that creates the major environmental damage with regional and global consequences is:
- A. Industrialisation
 - B. Urbanisation
 - C. Agriculture
 - D. Mining
37. EIA is defined as-----:
- A. A process of identifying, predicting, and evaluating the likely impacts of a proposed project or development to define mitigation actions to reduce negative impacts and to provide positive contributions to the natural environment and well-being

- B. A report written by government representatives on the planned development impacts of environment, socio-economic issues and culture
 - C. Project life-cycle assessment
 - D. All the above
38. What is essential in an EIA?
- A. that it allows decision makers to assess a project's impacts in all its phases
 - B. that it allows the public and other stakeholders to present their views and inputs on the planned development
 - C. that it contributes to and improve the project design, so that environmental as well as socioeconomic measures are core parts of it
 - D. All of the above
39. There are many known shortcomings in EIA reports. Which is NOT a known shortcoming?
- A. The description of the proposal does not cover key features.
 - B. Appropriate mitigating measures are not considered.
 - C. Insufficient or outdated prediction models are used.
 - D. All relevant stakeholder's concerns are incorporated.
40. What is included in an Impact assessment?
- A. a detailed assessment of the planned project and selected alternatives compared to the baseline conditions
 - B. Qualitative descriptions measuring high, medium and low impacts
 - C. Quantitative descriptions such as indicating the cubic metres of water withdrawn, sewage produced, and pollutants released
 - D. All of the above
41. Which one of the following is a result of overpopulation?
- A. Adequate storage of natural resources
 - B. Pressure on land and other renewable resources
 - C. Increasing the amount of forest
 - D. Decrease the shortage of water
42. The new trend of people moving away from congested urban areas to cleaner areas outside the city is known as:
- A. Urbanisation
 - B. Urban transition
 - C. Sub-Urbanisation
 - D. Desertion of urban areas
43. A Solar cell is an electrical device that converts the energy of light directly into electricity by the _____
- A. Photovoltaic effect
 - B. Chemical effect
 - C. Atmospheric effect
 - D. Physical effect
44. The most nuclear fuel used in the world is _____
- A. Thorium – 232
 - B. Uranium – 238
 - C. Uranium – 235
 - D. Plutonium – 239
45. Which of the following is a disadvantage of renewable energy?
- A. Unreliable supply
 - B. Available only in few places

- C. High running cost
 - D. High pollution
46. Trapped heat inside the earth is known as _____
- A. Heat energy
 - B. Kinetic energy
 - C. Geothermal energy
 - D. Thermal energy
47. Water stands on land for most of the year is called?
- A. Salinity
 - B. Water loading
 - C. Water logging
 - D. Stand by water
48. Which one of the following can replace harmful and high cost pesticides?
- A. Weeds
 - B. Small animals
 - C. Artificial protectors
 - D. Natural predators
49. What are the three R's that are used to save the environment in solid waste management?
- A. Reduce, Reuse, Recycle
 - B. Reserve, Reduce, Recycle
 - C. Reuse, Reserve, Reduce
 - D. Reserve, Reuse, Reduce
50. 96.5 per cent of the total volume of the world's water is estimated to exist as _____ and only 2.5 per cent as _____.
- A. Freshwater, oceans
 - B. Oceans, freshwater
 - C. Groundwater, oceans
 - D. None of the above
51. What is water scarcity?
- A. The lack of sufficient available fresh water resources to meet the demands of water usage within a region.
 - B. The lack of sufficient available ocean water to meet the demands of water usage within a region.
 - C. Lack of sufficient available fresh water resources to meet the demands of industries of the country
 - D. All of these
52. Virtual water" may be defined as.
- A. The practice of trading commodities which themselves contain water
 - B. The buying and selling of water-related securities on open markets
 - C. The practice of trading commodities which contain other liquids (i.e. water substitutes
 - D. None of these
53. Which is the most common way to purify drinking water?
- A. Coagulants
 - B. Filters
 - C. Disinfection
 - D. None of the above

54. According to guideline recommended by WHO for quality of water E coli in distribution system per 100 ml of water is:
- A. 0
 - B. 50
 - C. 100
 - D. 5
55. Biological layer is present in
- A. Rapid sand filter
 - B. Slow sand filter
 - C. Reed bed system
 - D. Mechanical filter
56. Skin and eye infections are?
- A. Water washed
 - B. Water borne
 - C. Water based
 - D. None of the above
57. What happens during the clarification or separation step at a wastewater treatment plant?
- A. Large solid things are screened out
 - B. Scum and sludge are separated from the liquid wastewater
 - C. Treatment with chlorine or ultraviolet light to kill pathogens
 - D. Liquid wastewater is mixed with air to help bacteria breakdown small particles of solid material
58. What happens during the disinfection step at a wastewater treatment plant?
- A. Scum and sludge are separated from the liquid wastewater
 - B. Large solid things are screened out
 - C. Liquid wastewater is mixed with air to help bacteria breakdown small particles of solid material
 - D. Treatment with chlorine or ultraviolet light to kill pathogens
59. What is a zero liquid discharge system?
- A. A system that precipitates metals out of factory wastewater by changing the ph
 - B. A system that uses ozone or hydrogen peroxide to oxidize organic chemicals in factory wastewater
 - C. A system that neutralizes acids or alkalis in factory wastewater
 - D. A system that evaporates water from factory wastewater so only solids remain
60. What is the first thing that happens to wastewater at a wastewater treatment plant?
- A. Treatment with chlorine or ultraviolet light to kill pathogens
 - B. Liquid wastewater is mixed with air to help bacteria breakdown small particles of solid material
 - C. Large solid things are screened out
 - D. Scum and sludge are separated from the liquid wastewater

SECTION B: USE THE ANSWER BOOKLET PROVIDED (40 MARKS)

1. Assume after your graduation, you are appointed as the Environmental Health and Safety Officer of your District/Town of Origin. On your first day in office, you receive a group of Public Health students and your supervisor assigns you to take them through the various aspects of environmental health in that District/Town. Describe to them the following;
 - a) The Sustainable Development Goals related to environmental Health (10 Marks)
 - b) Municipal solid waste management process (10 Marks)
 - c) Municipal water treatment Process (10Marks)
 - d) Large scale waste water treatment process (10Marks)

Note: Use relevant examples and illustrations

-End-

Good Luck