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UNIVERSITY EXAMINATIONS 2023/2024 ACADEMIC YEAR

THIRD YEAR FIRST TRIMESTER

MAIN EXAMINATION

FOR BACHELOR OF SCIENCE IN NURSING DEGREE

COURSE CODE: NUR 313

COURSE TITLE: Environmental and Occupational Health

DATE: 06/12/2023

TIME: 9AM – 12PM

TO CANDIDATES

Answer ALL Section one (1) MULTIPLE CHOICE QUESTIONS and ALL Section two (2) SHORT ANSWER QUESTIONS and any one (1) section THREE (3) LONG ANSWER QUESTION.

TIME: 3 Hours

SECTION ONE (50 Marks)

1. Vibrations and radiations come under:
 - a. Chemical hazards
 - b. Physical hazards
 - c. Electrical hazards
 - d. Psychological hazards

2. Which of the following is a biological hazard?
 - a. Virus
 - b. Fatigue
 - c. Alcoholism
 - d. Old age

3. The only thing that can keep you safe consistently is
 - a. Personal Protective Equipment
 - b. Your supervisor
 - c. Obeying all warning signs
 - d. Your attitude

4. Occupational safety and health is concerned with health and welfare of
 - a. Co-workers
 - b. Family members
 - c. Employees and customers
 - d. All of the above

5. The worker requires foot protection in work environment with
 - a. Fine dust and fluff
 - b. Hot and poisonous fumes
 - c. Electrical hazards
 - d. Penetrating materials such as nails and sparks

6. Which of the following aspects is not a part of safe work place?
 - a. Variation

- b. Noise control
- c. Color Code
- D. Temperature

7. In case of welding, one should protect his eyes using

- a. Dark glass screen
- b. Mask
- c. Safety goggles
- d. Sun goggles

8. Consider the goals of the safety policy of a company, at once designating also the responsibilities and authorities for their achievement:

- i. Safety of employees and the public at large
- ii. Efforts to be made to involve all managers, supervisors and employees in the development and implementation of safety procedures
- iii. Clearing of all caveats that may tell on keeping the morale of the employees high

Which of the above statements are correct?

- a. 1, 2 and 3
- b. 2 and 3 only
- c. 1 and 2 only
- d. 1 and 3 only

9. What is known as the Costa Rican approach in the area of Public Health?

- a. Equal spending on health and defence
- b. Defence budget to be more than health budget
- c. Not having an army to maintain to be able to be able to spend more on public health
- d. Spending on the health system of the army men

10. Fire extinguisher is

- a. Active fire protection system
- b. Passive fire protection system
- c. To be brought during fire hazard
- d. Fire detection unit

11. What is a common occupational health hazard in workplaces with exposure to loud noise?
- Respiratory infections
 - Musculoskeletal injuries
 - Hearing loss
 - Skin rashes
12. Which of the following is an example of a primary air pollutant?
- Ground-level Ozone
 - Sulfurdioxide (SO₂)
 - Particulate Matter (PM 2.5)
 - Carbon monoxide (CO)
13. Which government agency in Kenya is responsible for regulating and ensuring occupational safety and health?
- Food and Drug Administration (FDA)
 - Environmental Protection Agency (EPA)
 - Directorate of Occupational Safety and Health Services (DOSHS)
 - Centers of Disease Control and Prevention (CDC)
14. Asbestos exposure is associated with which occupational health issue?
- Skin cancer
 - Lung cancer
 - Heating loss
 - Diabetes
15. What is the primary source of indoor air pollution in homes and workplaces?
- Pesticides
 - Radon gas
 - Vehicle emissions
 - Industrial emissions
16. Which of the following best describes the 'Greenhouse Effect?'
- The cooling of the Earth's atmosphere
 - The warming of the Earth's atmosphere due to the trapping of heat

- c. The depletion of the Ozone layer
- d. The reduction of greenhouse gases

17. Noise pollution is typically measured in

- a. Decibels (Db)
- b. Watts (W)
- c. Volts (V)
- d. Hertz (Hz)

18. Which of the following is an example of an ergonomic hazard in the workplace?

- a. Chemical exposure
- b. Slip and fall hazards
- c. Repetitive strain injuries
- d. Heat stress

19. What type of environment includes the physical surroundings where an organism lives and interacts with other living and non-living elements?

- a. Ecological environment
- b. Social environment
- c. Abiotic environment
- d. Cultural environment

20. Which of the following is not a type of natural environment?

- a. Forest
- b. Desert
- c. Urban
- d. Ocean

21. What is the primary goal of environmental conservation and sustainability?

- a. Increasing pollution
- b. Preserving natural resources
- c. Exploiting ecosystems
- d. Wasting energy

22. Which of the following actions contributes to maintaining a healthy environment?

- a. Reusing and recycling
- b. Excessive use of single-use plastics
- c. Overfishing and deforestation
- d. Ignoring air quality regulations

23. How can individuals reduce their carbon footprint and combat climate change?

- a. Conserving water
- b. Using public transportation
- c. Increasing energy consumption
- d. Disposing of waste landfills

24. Which of the following is a renewable source of energy that helps reduce environmental impact?

- a. Fossil fuels
- b. Solar power
- c. Coal mining
- d. Nuclear energy

25. What is the primary goal of community sanitation?

- a. Increasing pollution
- b. Maintaining a clean and healthy environment
- c. Encouraging waste disposal in public areas
- d. Reducing access to clean water

26. What is the practice of treating and managing waste to prevent pollution and health hazards?

- a. Contamination
- b. Sanitation
- c. Overconsumption
- d. Deforestation

27. How do individuals contribute to home sanitation?

- a. Hoarding waste at home
- b. Regular cleaning and disinfection of living spaces

- c. Neglecting cleanliness and hygiene
- d. Wasting water and energy

28. What is the term for a facility that safely disposes of human waste and prevents its contamination of the environment?

- a. Sewage system
- b. Landfill
- c. Compost heap
- d. Greenhouse

29. How can communities promote better sanitation practices?

- a. Establishing public health programs and awareness campaigns
- b. Disposing of waste in open areas
- c. Ignoring sewage treatment facilities
- d. Encouraging the use of non-biodegradable material

30. What is the purpose of water reservoir or storage tank?

- a. To treat water
- b. To transport water
- c. To store water for distribution
- d. To filter water

31. What is the purpose of water treatment plants?

- a. To increase water pollution
- b. To store water temporarily
- c. To improve water quality for safe consumption
- d. To extract minerals from water

32. Which process is commonly used to disinfect water and kill harmful microorganisms in water treatment?

- a. Chlorination
- b. Dehydration
- c. Filtration
- d. Distillation

33. Which of the following is an example of hazardous waste?

- a. Organic waste
- b. Glass bottles
- c. Toxic chemicals
- d. Paper

34. What is the primary goal of recycling?

- a. To increase waste generation
- b. To reduce waste and conserve resources
- c. To promote landfilling
- d. To encourage waste incineration

35. What is the first step in hospital waste management?

- a. Incineration
- b. Waste segregation
- c. Landfilling
- d. Recycling

36. Which waste category should be placed in specially marked containers typically colored red or yellow?

- a. General waste
- b. Recyclable waste
- c. Biomedical waste
- d. Hazardous waste

37. What is the common method for treating hazardous hospital waste before disposal?

- a. Composting
- b. Incineration
- c. Recycling
- d. Landfilling

38. What is the process of rendering infectious waste non-infectious before disposal?

- a. Autoclaving

- b. Recycling
- c. Landfilling
- d. Composting

39. What is the primary purpose of food hygiene practices?

- a. Increasing foodborne illnesses
- b. Ensuring food safety and preventing contamination
- c. Reducing the availability of food
- d. Ignoring food storage guidelines

40. Which of the following is a common cause of foodborne illness?

- a. Proper food handling and storage
- b. Washing hands before eating
- c. Contaminated food or water
- d. Overcooking food

41. What is the primary goal of occupational health and safety (OHS) programs

- a. Increasing workplace accidents
- b. Maximizing company profits
- c. Ensuring the health and safety of workers
- d. Ignoring workplace hazards

42. What is the term for an unexpected event that causes harm to people, property or the environment in the workplace?

- a. Safety regulation
- b. Occupational hazard
- c. Emergency response
- d. Job satisfaction

43. What is the process of reporting and investigating workplace incidents to prevent future occurrences?

- a. Safety culture
- b. Safety inspection
- c. Safety data analysis

d. Incident analysis and root cause identification

44. What should employees do if they encounter a hazardous condition in the workplace?

- a. Ignore it to avoid trouble
- b. Report to a superior or safety officer
- c. Share it on social media
- d. Attempt to fix it themselves

45. What is the primary focus of occupational epidemiology?

- a. Studying diseases unrelated to workplace
- b. Investigating the causes and distribution of diseases and injuries in the workplace
- c. Analyzing trends in consumer behavior
- d. Exploring effects of climate change on health

46. What is the purpose of collecting occupational health data and statistics

- a. To increase workplace hazards
- b. To measure the impact of workplace health and safety programs
- c. To discourage safety reporting
- d. To manipulate injury statistics

47. What statistical measure is often used to describe the central tendency of a dataset in occupational health studies?

- a. Range
- b. Median
- c. Variance
- d. Skewness

48. What is the term for ongoing systematic collection analysis and interpretation of health data essential for planning, implementation, and evaluation of public health practices?

- a. Data manipulation
- b. Data storage
- c. Data surveillance
- d. Data visualization

49. In occupational health, what is the primary purpose of dose-response relationship analysis?

- a. To identify workplace hazards
- b. To determine the number of employees
- c. To understand the relationship between exposure levels and health effects
- d. To assess employee morale

50. What is the primary goal of using epidemiological and statistical data in occupational health and safety programs?

- a. To hide workplace accidents
- b. To assess the effectiveness of safety measures and reduce risks
- c. To discourage worker reporting of safety concerns
- d. To increase insurance costs for employers

SECTION TWO: SHORT ANSWER QUESTIONS (30 MARKS)

1. Define occupational health (2 Marks)
2. Outline the four (4) differences between incidence and prevalence (4 Marks)
3. Define and calculate the Population Attributable Risk (PAR) for smokers on the table below (5 Marks)

Relationship between cigarette smoking and incidence rate of stroke in a cohort of 118539

Smoking category	Number of cases of stroke	Person-years of observation (over 8 years)	Stroke incidence rate (per 100000) person-years
Never smoked	70	395 594	17.7
Ex-smoker	65	232 712	27.9
Smoker	139	280 141	49.6
Total	274	908 447	30.2

4. Using a diagram show how epidemiology is concerned with the cause and outcome (natural history of diseases in individuals and groups) (4 Marks)
5. Define the two (2) main types of environment (4 Marks)
6. State six (6) ways that a compromised planet is now compromising the human right to health (6 Marks)
7. Several environmental health issues can harm our health. State the five (5) essential health concerns that are critical to sustaining human life and creating healthier ecosystems (5 Marks)

SECTION THREE: LONG ANSWER QUESTIONS (20 MARKS)

1. Discuss the importance of environmental health (20 Marks)
2. Epidemiological studies can be classified as either observational or experimental. Discuss the research designs under each (20 Marks)