

Marks Scored:

KATHMANDU UNIVERSITY
End of Semester Examination
March/April, 2017

Level: B. Sc.

Year : III

Exam Roll No. :

Time: 30 mins.

Course : ENVS 336

Semester : I

F. M. : 20

Registration No.:

Date

APR 6 2017


SECTION "A"

[40 Q. × 0.5 = 20 marks]

Multiple choice questions.

1. The health measure that assesses prevalence of illness or disability
 - a. Morbidity
 - b. Disability-Adjusted Life Year
 - c. Life expectancy
 - d. Risk assessment
2. POPs are examples of
 - a. Phytochemicals
 - b. Cancers
 - c. PM_{2.5}
 - d. Teratogens
3. John Snow was the first person to make scientific study of
 - a. Ebola
 - b. Cholera
 - c. Staphylococcus
 - d. Salmonella
4. Acute health effects result
 - a. in an immediate health crisis
 - b. in irreversible health problems
 - c. from exposure to radiation
 - d. in delayed on set of effects
5. Historically, the highest priority in environmental health was controlling
 - a. infectious diseases
 - b. air pollution
 - c. population growth
 - d. hazardous waste
6. Lead poisoning is a serious problem among children who
 - a. live in older buildings
 - b. had low birth weights
 - c. have not been vaccinated
 - d. have poor diets
7. Most potent source of PM 2.5 emission is
 - a. Indoor air pollution
 - b. Incinerators
 - c. Vehicles
 - d. Digging of ground
8. A radioactive gas found in certain soils and rocks is:
 - a. Lead
 - b. Asbestos
 - c. Ozone
 - d. Radon
9. In Nepal highest mortality due to non communicable disease is by:
 - a. CVD
 - b. Cancer
 - c. COPD
 - d. Diabetes
10. Identify the host factor responsible for disease to a person
 - a. Immunologic status
 - b. Exposure
 - c. virulence
 - d. Confounders

11. Increase in number of new cases of a particular disease or attribute in a population at a specified of time
 - a. Incidence rate
 - b. Cumulative incidence
 - c. Point prevalence
 - d. Period prevalence
12. Toxins affecting the liver and liver functions are called
 - a. Hepatotoxins
 - b. Nephrotoxins
 - c. Neurotoxins
 - d. Haematotoxins
13. Examination of relationship between exposure and disease developed in a defined population in a duration of time
 - a. Case control study
 - b. Ecological study
 - c. Cross sectional study
 - d. Cohort study
14. Most common cancer among females of Nepal is
 - a. Breast
 - b. Lungs
 - c. Large intestine
 - d. Cervix
15. Early physicians were concerned with which type of occupational hazard?
 - a. Silica
 - b. Asbestos
 - c. Metals
 - d. Tetraethyl
16. Which part of the ear contains the hair cells that transmit electrical impulses to the brain?
 - a. Tympanic membrane
 - b. Basilar membrane
 - c. Round window
 - d. Concha
17. Which of the following is a type of engineering control?
 - a. Safety glasses
 - b. Job rotation
 - c. Local exhaust ventilation
 - d. Mask
18. Who is the Father of Toxicology?
 - a. Georgius Agricola
 - b. Paracelsus
 - c. Robert Brown
 - d. Alice Hamilton
19. What famous phrase did Bernardo Ramazzinni use when talking to his patients?
 - a. "The dose makes the poison."
 - b. "Of what trade are you?"
 - c. "The solution to pollution is dilution."
 - d. "Darai mahangu cha"
20. What is significant about Percival Potts and scrotal cancer?
 - a. Physician who diagnosed the first occupational-related cancer.
 - b. Studied mercury in the quicksilver mines.
 - c. Required miners to wear personal protective equipment
 - d. Discovered 'phossy jaw'.
21. What is the leading cause of death in the workplace?
 - a. Falls from elevation
 - b. Motor vehicle crashes
 - c. Workplace Violence
 - d. Electrocution
22. Which of the following is not an exposure concept learned in class?
 - a. Frequency of exposure
 - b. Duration of exposure
 - c. Dose
 - d. Concentration of chemical

23. If the LD_{50} of a chemical is 500 mg/kg, what mass in grams must be ingested to kill 50% of a test population? (assume the average humans weighs 70 kg)
- a. 10 grams b. 20 grams c. 35 grams d. 20,000 grams
24. Which of the following is not an occupational health hazard?
- a. Skin sensitization b. Carcinogenicity c. Pyrophoric gases d. Simple asphyxiants
25. According to the Globally Harmonized System for Hazard Communication, what does the following symbol represent?
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- a. Flammable liquids b. Oxidizer
c. Acutely toxic chemical d. Environmental hazard
26. Which of the following is not required for a hazard communication program?
- a. Employee training b. SDSs
c. Labeling d. Manufacturer notification
27. Which is not a section in a Safety Data Sheet (SDS)?
- a. Chemical and Physical Properties b. Emergency Medical Procedures
c. Toxicological Effects d. Chemical Identification
28. Based on Threshold Limit Values (TLV), a hearing conservation program should be implemented when noise levels are at or above what noise level?
- a. 95 dBA b. 80 dBA c. 90 dBA d. 85 dBA
29. What is the term for hearing loss typically associated with short-term one-time exposure to loud noises, like at a rock concert?
- a. Standard threshold shift b. Presbycusis
c. Noise induced hearing loss d. Temporary threshold shift
30. Which of the following is the correct order for the hierarchy of hazard controls (first choice to last choice)?
- a. PPE, Engineering Controls, Administrative Controls, Elimination
b. Elimination, PPE, Administrative Controls, Engineering Controls
c. Elimination, Engineering Controls, Administrative Controls, PPE
d. Anticipate, Recognize, Evaluate, Control
31. What must occupational health professionals be proficient at?
- a. Investigating fatalities
b. Managing subordinates
c. Workplace violence
d. Anticipate, recognize, evaluate and control work place hazard
32. What does the variable Q in the ventilation equation $Q = VA$ stand for?
- a. volumetric flow rate b. air velocity
c. cross sectional area of a duct d. static pressure

33. Highest TLV of 5000 ppm is of
a. CO₂ b. PM₁₀ c. CH₄ d. TSP
34. The amount of gas and vapor to which given organism is exposed is expressed as
a. Ppm b. Mg/m³ c. Mg/cm² d. Mg/l
35. Highest DALYs in South Asia by disease in 2010 was of
a. COPD b. Lower Respiratory tract infection
c. Diarrheal diseases d. CVD
36. Measurement of biological markers provide information about
a. Exposure b. Dose c. Effects d. Susceptibility
37. Anthrax powder is a
a. Physical hazard b. Chemical hazard
c. Biological hazard d. Psychological hazard
38. Which of the followings best estimates the actual exposure
a. Quantified surrogates of exposure
b. Quantified area or ambient measurement
c. Quantified personal measurement
d. Quantified personal measurement of the unit
39. Contact dermatitis is a
a. Allergic reaction b. Urticarial reaction
c. Photochemical reaction d. Photobiological reaction
40. According to new labor act of Nepal, minimum work space to be provided to a factory worker is
a. 5 m² b. 10 m² c. 15 m² d. 20 m²

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SECTION "B"

[Long answer questions]

[4Q × 7 = 28 marks]

Attempt *ANY FOUR* questions. Question No.1 is compulsory.

1. Air pollution, both ambient and in-door, are emerging as the most prominent public health issue in Nepal. Justify.
2. What measures are used to compare the frequency of disease in populations and what information do they provide?
3. Discuss the kinds of health impacts resulting from climate change. What are the effects of Climate change in infectious diseases? What are the challenges to connecting changes in infectious diseases?
4. What is Ergonomics? What are Ergonomic risk factors? Describe any two common work related musculoskeletal disorder of Brick industry workers.
5. Describe health effects associated with water quality. How WASH contributes to minimize these effects?

SECTION "C"

(Short answer questions)

6. Write note (*ANY FOUR*) [4Q × 4 = 16]
 - a. TLVs
 - b. Occupational Health in Developing Countries
 - c. Dose Response Relationship
 - d. Malaria in Nepal
 - e. Arrangements related to health and safety of workers in labor act of Nepal
7. Give reasons: Why/How? [2Q × 2 = 4]
 - a. Children are uniquely vulnerable to air pollution?
 - b. Screening helps prevent cancer
8. Define the followings (*ANY SEVEN*): [7Q × 1 = 7]
 - a. MAC
 - b. Confounders
 - c. SMOG
 - d. Bio-monitoring
 - e. Latency period
 - f. Analytical study
 - g. Sick building syndrome
 - h. Auditory fatigue

