

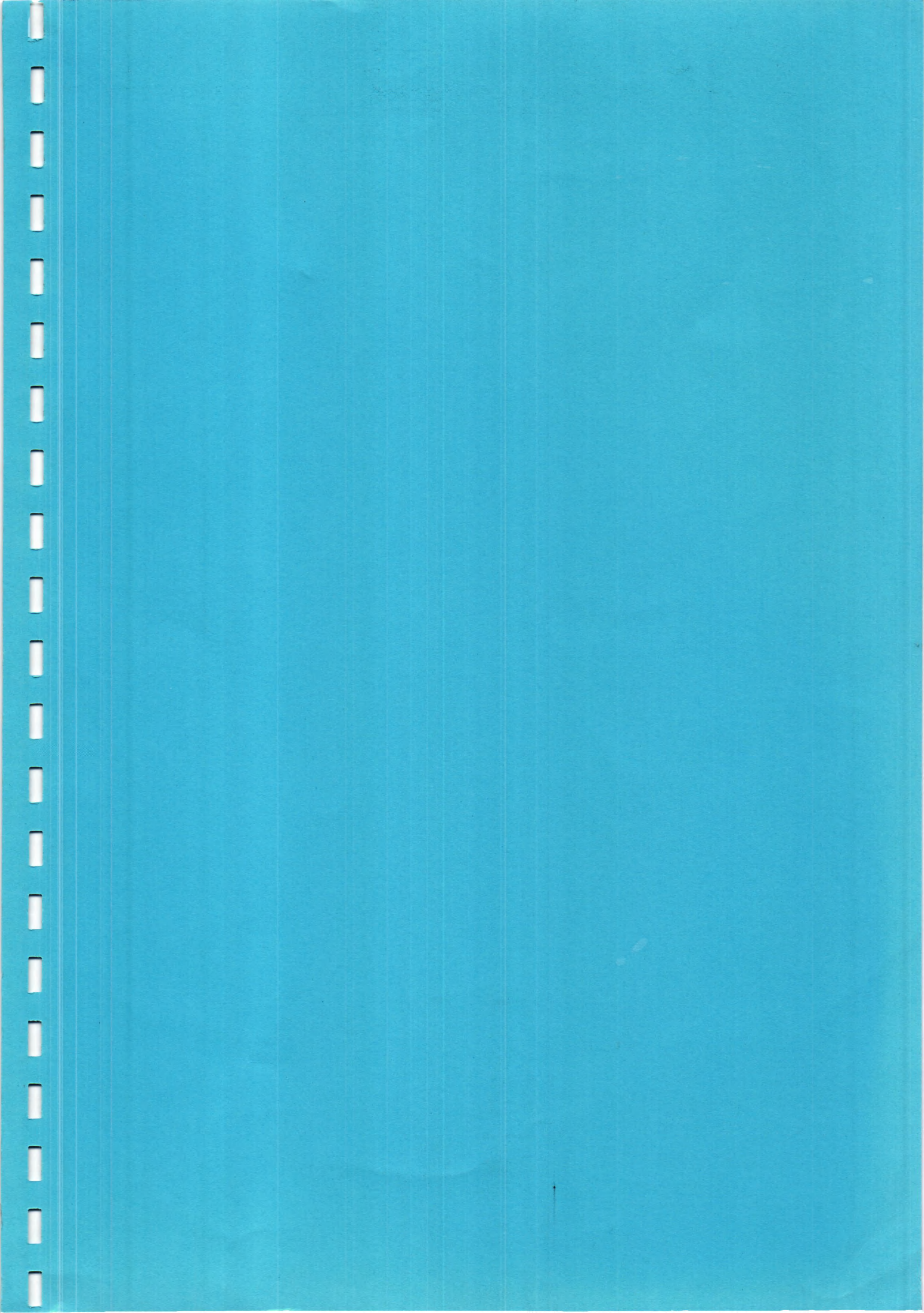
KATHMANDU UNIVERSITY  
End Semester Examination  
August, 2018

Marks scored:

Level : B.Sc.  
Year : III

Sem. I 8  
(CS)

Course : ENVS 336  
Semester: II



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Exam Roll No. :

Time: 30 mins.


F. M. : 20

Registration No.:

Date AUG 27 2018

SECTION "A"

[20 Q.×0.5=10 marks]

1. Who is the Father of Toxicology?  
a. Georgius Agricola  
b. Paracelsus  
c. Bernardo Ramazzinni  
d. Alice Hamilton
2. What is the leading cause of death in the workplace?  
a. Falls from elevation  
b. Motor vehicle crashes  
c. Workplace Violence  
d. Electrocutation
3. What must occupational health professionals be proficient at?  
a. Investigating fatalities  
b. Managing subordinates  
c. Writing lengthy grant proposals  
d. Anticipate, recognize, evaluate and control workplace hazards
4. What are the units for LC<sub>50</sub>?  
a. ppm  
b. mg/kg  
c. g/dL  
d. mg/m<sup>3</sup>
5. 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
6. What is the most common route of exposure in the occupational environment?  
a. Ingestion  
b. Inhalation  
c. Injection  
d. Absorption
7. According to the Globally Harmonized System for Hazard Communication, what does the shown symbol represent?  
  
a. Flammable liquids  
b. Oxidizer  
c. Acutely toxic chemical  
d. Environmental hazard
8. What 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
9. Based on Threshold Limit Values (TLV), a hearing conservation program should be implemented at what noise level?  
a. 78 dBA  
b. 80 dBA  
c. 82 dBA  
d. 85 dBA

10. Which of the following is the correct order for the hierarchy of hazard control (first choice to last choice)?
- PPE, Engineering Controls, Administrative Controls, Elimination
  - Elimination, PPE, Administrative Controls, Engineering Controls
  - Elimination, Engineering Controls, Administrative Controls, PPE
  - Anticipate, Recognize, Evaluate, Control
11. What does the variable Q in the ventilation equation  $Q = VA$  stand for?
- volumetric flow rate
  - air velocity
  - cross sectional area of a duct
  - static pressure
12. The health measure that assesses the loss of quality of life due to illness is called
- Morbidity
  - Disability-Adjusted Life Year
  - Life expectancy
  - Risk assessment
13. Which term is used to describe the accumulation of dangerously high levels of toxins inside cells?
- Biomagnification
  - Synergism
  - Persistent organic pollutant
  - Bioaccumulation
14. Historically, the highest priority in environmental health was controlling:
- infectious diseases
  - air pollution
  - population growth
  - solid waste
15. Lead poisoning is a serious problem among children who:
- live in older buildings
  - had low birth weights
  - have not been vaccinated
  - have poor diets
16. Which of the following is a prime health risks associated with greater UV radiation through the atmosphere due to depletion of stratospheric ozone?
- Damage to digestive system
  - Increased liver cancer
  - Neurological disorder
  - Increased skin cancer
17. Which of the following groups is the least sensitive to air pollution?
- Young adults
  - Older adults
  - Adolescents
  - Children
18. Which of the following factors is least likely to be a factor in the health effects of radiation exposure?
- Individual sensitivity
  - Setting in which exposure occurred
  - Exposure dose
  - Exposure duration
19. All of the following are potential health effects associated with noise pollution except
- Increased anxiety
  - Hearing impairment
  - Low blood pressure
  - Headache
20. Which of the following deficiencies results in goiters and cretinism?
- Folic Acid
  - Vitamin A
  - Iodine
  - Zinc

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SECTION "B"  
[5Q.x1=5 marks]

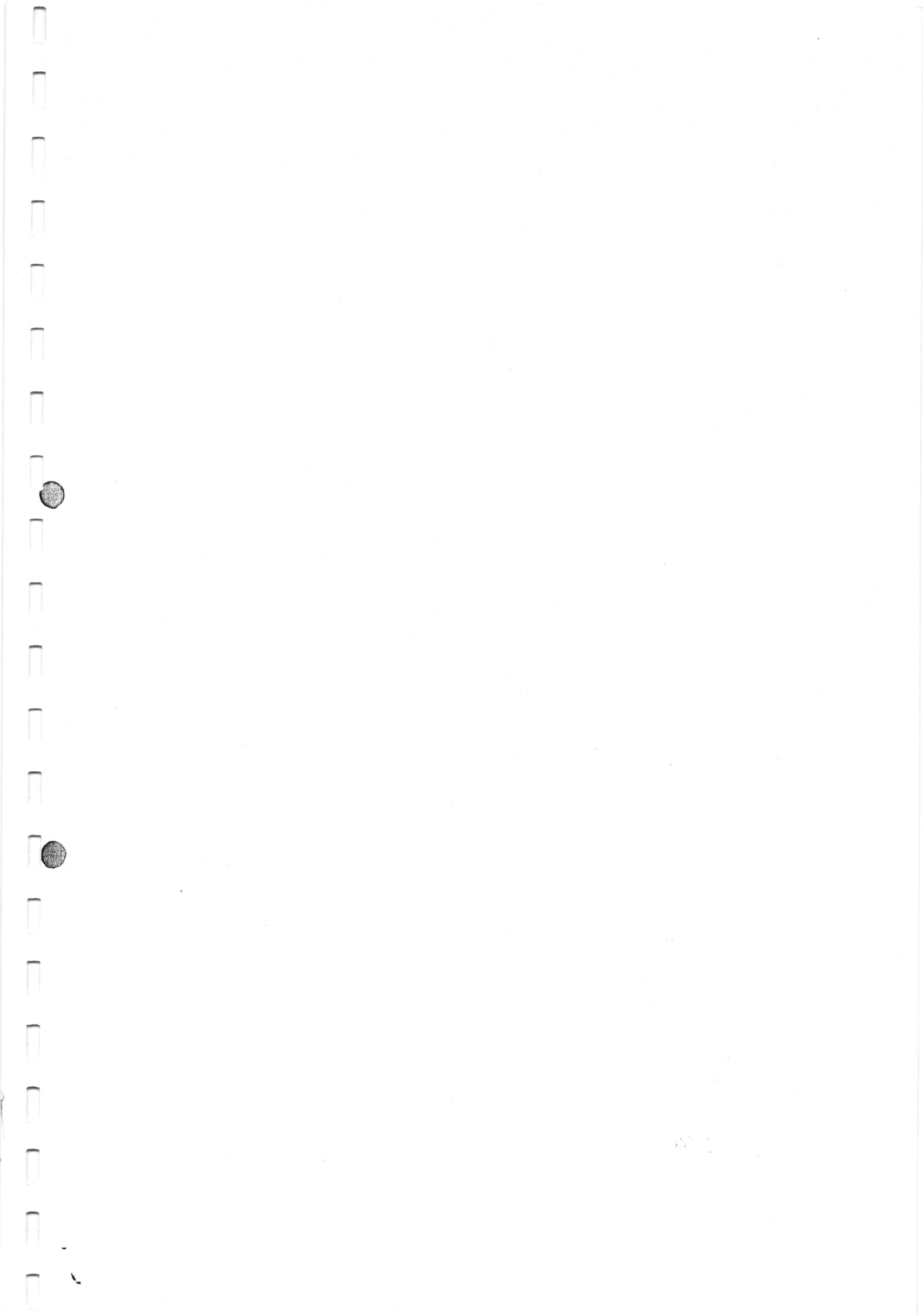
**Fill in the blank/Choose appropriate word**

1. A toxicant that over-activates the immune system, causing an immune response when one is not necessary \_\_\_\_\_.
2. Type of disease in which a pathogen attacks a host \_\_\_\_\_.
3. The mathematical probability that some harmful outcome resulted from a given action, event, or substance \_\_\_\_\_.
4. A toxicant that causes harm to the unborn, resulting in birth defects \_\_\_\_\_.
5. The amount of a toxicant at which it begins to affect a population of test animals \_\_\_\_\_.

SECTION "C"  
[10 Q.x0.5=5 marks]

**True/False**

1. Exposure to an agent at a level below its legal occupational exposure limits excludes it as a cause of ill-health [ ]
2. Laboratory tests of function of a target organ are the most specific way of reaching a diagnosis [ ]
3. For Occupational diseases, enquiries about symptoms or illness in other workers should be pursued. [ ]
4. Chlorine causes eye and respiratory ailments [ ]
5. Itai-Itai disease is caused by Cadmium [ ]
6. Giardiasis is a protozoal disease [ ]
7. Hair and Nail are used to collect biological sampling of Arsenic [ ]
8. A sound level meter is used to measure noise for an 8-hour time-weighted average [ ]
9. General Dilution Ventilation is best for highly toxic chemicals [ ]
10. Climate change promotes transmission of infectious agents by changing the distribution of vectors globally [ ]



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F. M. : 55

SECTION "D"

[2 Q.×7=14 marks]  
(Long answer questions)

Attempt *ANY TWO* questions.

1. Briefly describe the direct and indirect health impacts of climate change. Give your opinion on the major climate change related health issues of Nepal.
2. Define Environmental Health. Why should we care about it? Describe any two major environmental health issues of Nepal?
3. Define WASH. With suitable examples, describe the water quality associated health implications

SECTION "E"

(Short answer questions)

4. How does ergonomics benefit us? What are common work related musculoskeletal disorder of a furniture industry? [4]
5. What are the different Types of TLVs? Give definition of each of them. [4]
6. What are aerosols? What are the critical factors of aerosols that affect health? [4]
7. Write short note on *ANY THREE*. [3×4=12]
  - a. Immunity and Immunization
  - b. John Snow
  - c. Confounding variables
  - d. Malaria in Nepal
8. Draw a schematic diagram of the Natural History of Disease [4]
9. What is risk? What are the components of risk assessment? [4]
10. Differentiate between *ANY TWO*. [2×3=6]
  - a. Active sampling and Passive sampling
  - b. Primary pollutants and Secondary pollutants
  - c. TSP and PM 10
13. If the LD<sub>50</sub> 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 weigh 70 kg). [3]

