

M.Sc. CHEMISTRY  
THIRD SEMESTER  
ENVIRONMENTAL POLLUTION & MANAGEMENT  
MSC – 306A MDC

**SET  
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration : 3 hrs.

Full Marks : 70

Time: 30 min.

( Objective )

Marks: 20

*Choose the correct answer from the following:*

**1X20=20**

1. Soap is manufactured by the \_\_\_\_\_ catalyzed hydrolysis of animal fat
  - a. Acid
  - b. Base
  - c. Metal
  - d. None of the above
2. The compound lycopene produces which of the following color?
  - a. Green
  - b. Red
  - c. Yellow
  - d. Blue
3. Detergents are also known as \_\_\_\_\_
  - a. Artifacts
  - b. Detritus
  - c. Syndets
  - d. Collagen
4. Which of the following statement is correct about Nylon?
  - a. It is made of ethylene molecule
  - b. It is a natural polymer
  - c. It is biodegradable
  - d. It is synthetic polymer
5. The hazardous chemical can enter the human body through which of the following routes?
  - a. Ingestion
  - b. Eye contact
  - c. Inhalation
  - d. All the above
6. Nitrification of nitrogen cycle meaning
  - a. Conversion of N<sub>2</sub> gas to ammonia
  - b. Conversion to ammonia to nitrite
  - c. Conversion of ammonia to nitrate
  - d. Conversion of nitrate to nitrogen gas
7. Which of the following step is not involved in water cycle?
  - a. Precipitation
  - b. Transpiration
  - c. Condensation
  - d. None of the above
8. Which of the following is not a step of waste management?
  - a. Waste collection
  - b. Transportation
  - c. Disposal
  - d. None of the above
9. Composting is done by
  - a. Aerobic bacteria
  - b. Anaerobic bacteria
  - c. Both of the above
  - d. None of the above

10. Primary treatment of waste water involves
  - a. Removal of oil and greases
  - b. Removal of sand and rocks
  - c. Removal of floating materials
  - d. All of the above
11. Which of the following metal is/are soil pollutants
  - a. Lead
  - b. Mercury
  - c. Arsenic
  - d. All of the above
12. Long - term exposure to polluted soils has been link to
  - a. Cancer in humans
  - b. Headaches
  - c. Coughing
  - d. Chest pain
13. Exposure to high levels of lead can result in permanent damage to
  - a. Nervous system
  - b. Skin
  - c. Eye
  - d. Teeth
14. Which of the following soil pollutants are sourced from industrial waste
  - a. Chlorinated industrial solvents
  - b. Plasticizers
  - c. Polychlorinated biphenyls
  - d. All of the above
15. The herbicides used in agriculture for
  - a. Kill or control weeds and other unwanted plants
  - b. Used to kill insects
  - c. Used to kill parasitic fungi
  - d. None of the above
16. Which of the following particles is called the particulate pollutants?
  - a. Ozone
  - b. Radon
  - c. Fly Ash
  - d. Ethylene
17. Which of the following components is responsible for acid rain?
  - a. Sulphur
  - b. Carbon dioxide
  - c. Sulphur dioxide
  - d. Nitrogen dioxide
18. The major source of pollutant gas carbon monoxide (CO) in urban area is
  - a. Thermal power sector
  - b. Transport sector
  - c. Industrial sector
  - d. Domestic sector
19. Eutrophication of water bodies leading to killing of fishes is mainly due to non-availability of
  - a. Food
  - b. light
  - c. Oxygen
  - d. Essential minerals
20. The WHO provisional guideline value of fluoride in drinking water is
  - a. 1.5 mg/L
  - b. 2.5 mg/L
  - c. 10 g/L
  - d. 15 g/L

( Descriptive )

Time : 2 hrs. 30 mins.

Marks : 50

*[ Answer question no.1 & any four (4) from the rest ]*

1. a. What do you understand by Eutrophication? What are the ecological Effects of Eutrophication? 3+3+2+  
2=10  
b. What are the processes that cause soil pollution?  
c. What do you mean by chemical hazards and chemical safety?  
d. For which purposes recycled water can be reused?
2. a. What are the negative consequences of soil pollution? 5+5=10  
b. How can soil pollution be controlled?
3. a. What are the effects of soil pollution on human health? 4+3+3  
=10  
b. How can soil pollution be avoided?  
c. Discuss three different types of chemical hazards.
4. a. What are detergents? Write the physical-chemical steps involve in the cleaning action by detergents. 5+5=10  
b. Write down the environmental impact of hydrocarbon on animal and human. What do you mean by bioremediation agents?
5. a. Write short note on 5+5=10  
    i. Biodegradable industrial waste  
    ii. Synthetic polymer.  
b. Show and explain carbon cycle with proper diagram.
6. a. What are three different disinfection process of waste water. Explain their advantages and disadvantages. 5+5=10  
b. Show and explain nitrogen cycle with proper diagram.
7. a. What are the main reasons of particulate matter pollution? 3+4+3  
=10  
b. Write the toxic effects of arsenic and fluoride contaminated ground water. What are the remedies?  
c. Classify solid waste according to their origin and nature.