



QP CODE: 24803621



24803621

Reg No : .....

Name : .....

## INTEGRATED MSC DEGREE EXAMINATION, JUNE 2024

### Fifth Semester

INTEGRATED MSC BASIC SCIENCE-CHEMISTRY

### CORE - ICH5CR01 - ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

2020 Admission Onwards

49B4FB42

Time: 3 Hours

Weightage: 30

#### Part A (Short Answer Questions)

Answer any **eight** questions.

Weight 1 each.

1. What social and economic implications are associated with mineral resource extraction?
2. Explain the potential environmental and health risks associated with excessive use of fertilizers and pesticides.
3. How is energy transferred and transformed within food chains and food webs?
4. How does the Water (Prevention and Control of Pollution) Act address issues such as industrial wastewater discharge, sewage treatment, and groundwater pollution?
5. What are the challenges and limitations in effectively implementing and enforcing the Wildlife Protection Act and Forest Conservation Act?
6. What is secondary pollutant ? Give examples.
7. How does biomagnification affect top predators in ecosystems?
8. What is the impact of lead on hemoglobin function, and how does it contribute to anemia?
9. What is magic number? Explain with examples of magic number nuclei.
10. How has the United Nations contributed to the advancement of gender equality and women's empowerment?

(8×1=8 weightage)

#### Part B (Short Essay/Problems)

Answer any **six** questions.

Weight 2 each.

11. Discuss the impacts of soil erosion on agricultural productivity and ecosystem health.





12. What roles do different organisms play in the functioning of a forest ecosystem, including producers, consumers, and decomposers?
13. What are the sources of water pollution in urban areas, and how do they impact the environment and human health?
14. How does involuntary displacement impact the lives and livelihoods of affected communities?
15. What are the environmental issues of landfills and dumping?
16. What are the biochemical mechanisms through which carbon monoxide induces oxidative stress in cells?
17. Explain the importance of stable isotopes in medical research, particularly in studying metabolic pathways and drug metabolism.
18. Discuss the role of the judiciary in protecting and enforcing fundamental rights in India.

(6×2=12 weightage)

### **Part C (Essay Type Questions)**

*Answer any **two** questions.*

*Weight 5 each.*

19. Explain the importance of renewable resources, such as solar energy, wind power, and water, in mitigating climate change and reducing dependence on fossil fuels.
20. What are some limitations or exceptions to ecological pyramids and what are the advantages of using a food web over a food chain to understand ecosystem dynamics?
21. Briefly describe the classification of noise pollution. Explain its hazards and preventive measures.
22. a) Explain in detail a) Soddy's group displacement law of radioactivity and b) Liquid drop model, and c) Different modes of natural radioactive decay detailing the respective changes in properties of the parent nucleus.

(2×5=10 weightage)

