

Post Graduate Teaching Department of Chemistry
(An Autonomous Department)
Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
End Semester Examination Winter - 2022

M.Sc. (Chemistry) Inorganic Chemistry (3T3)
Environmental Chemistry (3rd Semester) (Elective Paper- III)

Time- [Three Hours]

Marks: 60

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1. All the questions are compulsory
 2. Figures to the right indicates marks allotted to the questions.

1. a) What is the role of Hydrogen cycle in maintaining ecological balance? (4)
- b) What are the sources and effect of noise pollution? How it can be controlled? (4)
- c) What are the sources and harmful effect of thermal pollution? (4)

OR

- d) What is atmosphere? Explain in detail. (4)
 - e) Describe Nitrogen cycle with suitable example. (4)
 - f) Write a descriptive notes on (4)
 - i) Industrial noise pollution
 - ii) Community noise pollution
2. a) Discuss the different criteria for water quality? What is the role of alkalinity and hardness of water in deciding the quality of water? (4)
 - b) Write short notes on hydrological cycle with diagram. (4)
 - c) Write a note on rain water harvesting. (4)

OR

- d) Write a note on water pollution sources and consequences and harmful effect of water pollution. (4)
 - e) Discuss the water management in agriculture rain fed system? (4)
 - f) Explain harmful effect of ground water pollution (4)
3. a) Write a note on photochemistry of atmosphere (4)
 - b) Discuss natural and manmade sources of air pollution (4)
 - c) Give an account on acid rain. (4)

OR

- d) How green house effect is produced? What are the sources of green house gases? How does it affect the climate? Explain. (4)
- e) Discuss the various reaction involved in photochemistry of atmosphere. (4)
- f) Discuss the role of Ozone in atmosphere and also explain the causes of Ozone depletion. (4)
4. a) What are the different types of soil? Discuss the availability of micronutrient of soil. (4)
- b) Write a note on (4)
- i) Control of radiation
- ii) Protection from radiation
- c) Explain (4)
- i) Texture bulk density
- ii) Ion exchange capacity of the soil.

OR

- d) What is soil management? How it can be achieved for saline soil? What are the precautionary measures? (4)
- e) What are the sources of radioactive pollution? Discuss their effect on human. (4)
- f) Which are the nuclear disasters in two decades? Name at least two and give their adverse effects on soil. (4)
- 5.a) Define the term ecology. Explain Troposphere with suitable diagram. (3)
- b) Write a descriptive note on water shed management (3)
- c) What are VOCs? How are they formed? How they are related to smog? (3)
- d) Give the important characteristic of sandy soil and how does pH affect the soil? (3)

@ All the Best @
