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Total No. of Pages : 02

Total No. of Questions : 15

M.Sc.(Chemistry) (2018 Batch) (Sem.-1)**ENVIRONMENTAL CHEMISTRY****Subject Code : CHL-405-18****Paper ID : [75117]****Time : 3 Hrs.****Max. Marks : 50****INSTRUCTION TO CANDIDATES :**

1. **SECTIONS-A** is **COMPULSORY** consisting of **FIVE** questions carrying two marks each.
2. **SECTION-B** contains **EIGHT** questions carrying **FOUR** marks each and students have to attempt any **SIX** questions.
3. **SECTION-C** will comprise of **TWO** compulsory questions with internal choice in both these questions. Each question carries **EIGHT** marks

SECTION-A

1. What is meant by “acid rain”? What are the chemical constituents of acid rain? Enumerate the causative factors for acid rain.
2. What is meant by BOD and COD? What are their recommended limits and what information do they reveal?
3. What are the mechanisms of natural degradation of pesticides?
4. Enumerate the radiations used in medical sciences. Mention their effect on humans
5. What is green house effect? Mention the approaches to reduce this effect.

SECTION-B

6. What is smog? Enumerate the constituents of smog and their deleterious effect on living beings. Mention the precautions to be exercised during smog.
7. Write a note on industrial water pollution and their remedies.
8. What is “water hardness”? Mention the reasons for water hardness and its remedy.

9. Write a note on ion-selective electrodes and their use in water analysis.
10. Enumerate acid-base reactions occurring in soil. Highlight their importance in keeping soil fertile.
11. Briefly explain the adverse effect of pesticides on fertility of soil.
12. What are non-ionizing radiations? Enumerate their effect on life.
13. Name the gas implicated in Bhopal Gas Tragedy. Highlight its immediate and long term effect on living beings.

SECTION-C

14. a) Enumerate the sources of air pollution and its consequent effect on living beings. How air pollution can be controlled in industries?

OR

- b) Explain neutron activation analysis and its applications.
15. a) What are micro- and macro nutrients in soil? Explain the effect of pollution on them.

OR

- b) Discuss the causes and health effects of Chernobyl nuclear disaster.