

NOVEMBER/DECEMBER 2019

**MCH44A — ENVIRONMENTAL  
CHEMISTRY**

Time : Three hours

Maximum : 75 marks

**SECTION A — (5 × 6 = 30 marks)**

Answer ALL questions.

1. (a) Discuss the classification of Air-pollutants according to

- (i) Origin
- (ii) Chemical composition
- (iii) State of matter

Or

- (b) What are the causes and effects of Acid Rain?

2. (a) Discuss the estimation of  $\text{SO}_2$  by West and Gacke method and estimation of nitrogen oxide by chemiluminiscene method.

Or

- (b) Describe the environmental implications of fertilizers, insecticides and pesticide.



3. (a) Write brief note on the following

(i) Electrostatic precipitation

(ii) Wet scrubbers.

Or

(b) Write short notes on the following

(i) Coagulation

(ii) Fluoridation

4. (a) What are the physiological and psychological effects of noise?

Or

(b) Discuss the various measures needed for effective noise control in industrial establishment.

5. (a) Describe the radioactive pollution and their sources.

Or

(b) Write informative notes on the following.

(i) Ocean dumping

(ii) Sub-sea bed dumping.

SECTION B — ( $3 \times 15 = 45$  marks)

Answer any THREE questions.

6. Discuss the effects of air pollutants on living and nonliving things.

7. Discuss the pollution sources, biochemical effects and toxicology of the following trace elements.

(a) Cadmium

(b) Arsenic

(c) Lead

8. What are the major objectives of the secondary waste water treatment? Describe any one of the biological waste water treatment process in detail.

9. Discuss the different types of equipment used for the measurement of noise levels.

10. Write brief notes on the following:

(a) Subductive waste-disposal method.

(b) Radioactive waste management in India.

(8+7)