

2017

M.Sc. Part-I Examination

ENVIRONMENTAL SCIENCE

PAPER—III

Full Marks : 100

Time : 4 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer Q. No. 1 and any five questions from the rest.

I. Answer any ten from the following : 10×2

- (i) Define aerosols.
- (ii) State the adverse effect of acid rain in aquatic environment.
- (iii) What is groundwater contamination ?

(Turn Over)

- (iv) What do you mean by "Water quality Standard"?
- (v) What is algal bloom?
- (vi) What is industrial noise?
- (vii) What is OSHA?
- (viii) What are the effects of lead on human beings?
- (ix) Write the phytotoxic effects of SO_2 .
- (x) Write the equations for the photochemical process for the formation of ozone layer.
- (xi) What is 'phytoremediation'?
- (xii) Mention two important disasters of heavy metal toxicity.
- (xiii) What is Electrostatic precipitator?
- (xiv) Define community health.
- (xv) What is USDA classification of Soil?
2. Compare between non-degradable and bio-degradable pollutant. Write in brief about mobile source of air pollution. Write the toxic effect of nitrogen containing gasses on life. 5+5+6

3. State the meteorological parameters influencing air pollution. Write a comprehensive note on control of gaseous contaminants. 8+8
4. State the criteria for ideal bioindicator. What are the signs of water pollution? Write a note on oxygen demanding waste. 5+5+6
5. Write critical notes on— 5+5+6
- (a) Primary and secondary treatment of wastewater.
- (b) Bioaccumulation and biomagnification.
- (c) Bacteriological and physico-chemical analysis of water quality.
6. Evaluate the benefits of integrated coastal zone management. Describe the significance of CRZ notification in India with implementation problems of CRZ areas. 8+8
7. Write notes on (any two)
- (a) Noise induced hearing loss and hearing protection devices.
- (b) Health and safety measures for preventing cadmium toxicity.
- (c) Photochemical smog.

8. (a) What are the sources of odour? List the various methods of odour control.
- (b) Explain the mechanism of wet scrubbers for particulate removal. 4+6+6
9. Write down the different sources of marine pollution. Mention the control measures for preventing marine pollution. 8+8
10. Differentiate between BOD and COD. Explain how groundwater polluted by arsenic? How arsenic can be decontaminated from groundwater? 4+6+6
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