

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2012

(CCSS)

Chemistry—Elective Course (3)

CH 6B 20 (E3)—ENVIRONMENTAL CHEMISTRY

Three Hours

Maximum : 30 Weightage

Answer all *twelve* questions.

Choose the correct answer of the following :

- 1 Plants absorb _____ form of nitrogen :
(a) Nitrate. (b) Nitrite.
(c) ammonia (d) Molecular nitrogen.
- 2 _____ personality is associated with Chipco movement :
(a) Anil Agarwal. (b) Meda Patkar.
(c) Madav Gadgil. (d) Sundarlal Bahuguna.
- 3 Nutrient- poor lake is called _____.
(a) Eutrophic. (b) Oligotrophic.
(c) Dystrophic. (d) Syntrophic.
- 4 Ozone layer is present in _____.
(a) Mesosphere. (b) Stratosphere.
(c) Troposphere. (d) Ionosphere .

Fill in the blanks of the following :

- 5 Hardness of water is due to _____.
- 6 Activated sludge process is a _____ treatment method of waste water
- 7 A substance which does not occur in nature, but introduced by human activity in to the environment, affects its composition is _____.
- 8 Eutrophication due to human activity is called _____.

Answer the following in single word / words.

- 9 An index used for indicating organic pollution in water.
- 10 The unit used for expressing microbial contamination.
- 11 Expansion of SPM.
- 12 Controlled and engineered landfilling.

(12 × ¼ = 3 weightage)

Turn over

II. Short answer type questions. Answer all *nine* questions.

- 13 What is carbon cycle ?
- 14 Role of NGO in environmental awareness.
- 15 Montreal protocol.
- 16 Distinguish between BOD and COD.
- 17 How is hardness removed from water ?
- 18 Pollution effects of soaps and detergents
- 19 Suggest two methods to control air pollution
- 20 What is photochemical smog ?
- 21 Comment on thermal treatment of solid waste.

(9 × 1 = 9 weightage)

III. Short essay or paragraph questions. Answer any *five* questions from seven.

- 22 Briefly discuss Silent Valley movement and Chipco movement.
- 23 Explain phosphorous cycle.
- 24 Enumerate the types of water pollutants.
- 25 Give an account of arsenic pollution in groundwater.
- 26 Chemical and photochemical reactions of SO₂.
- 27 Smog and photochemical smog.
- 28 What is sewage? What are the different types of sewage treatment ?

(5 × 2 = 10 weightage)

IV. Essay questions. Answer *two* questions from three.

- 29 Give an account of the different sources of surface water pollution.
- 30 Examine in detail the causes and effects of air pollution.
- 31 What are the different types of solid waste ? Discuss the various hazardous waste management

(2 × 4 = 8 weightage)