

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION OCTOBER 2012

(CCSS)

Chemistry

CH 5D 01—ENVIRONMENTAL CHEMISTRY

Time : Three Hours

Maximum : 30 Weightage

I. Answer *all* questions. Each question carries $\frac{1}{4}$ weightage :

- 1 Name the outer mantle of solid earth.
- 2 Oxygen plays a key role in troposphere, while _____ plays the key role in stratosphere. (Fill up the blank)
- 3 pH of sea water is _____. (Fill up the blank)
- 4 The worst environmental disaster on record in India is _____. (Fill up the blank)
- 5 Name one **organophosphorous** insecticide.
- 6 Name one membrane technology used in industrial waste-water treatment.
- 7 The dissolved oxygen in water is analysed by a **titrimetric** method known as _____. (Fill up the blank)
- 8 **Nessler's** method is used to analyse _____ in. water. (Fill up the blank).
- 9 Name one indicator used in the titration using **EDTA** to determine hardness of water.
- 10 Name two waste products from paper industry.
- 11 What is PAN ?
- 12 Name two greenhouse gases.

(12 x $\frac{1}{4}$ = 3 Weightage)

II. Answer the following. Each question carries a weightage of 1 :

- 13 Briefly describe the various segments of environment.
- 14 Illustrate oxygen cycle.
- 15 Explain the working of a "Two way" catalyst.
- 16 How is NO. determined ? Explain.
- 17 Briefly explain "**eutrophication**".
- 18 Explain the biochemical effect of mercury.
- 19 What is "cold trapping" ? Explain.
- 20 List the water quality standards for drinking.
- 21 What is desalination ? How is it achieved ? Explain.

(9 x 1 = 9 Weightage)

Turn over

III. Answer any *five* questions. Each question carries a **weightage** of 2 :

- 22 What are the sources of **CFC** in environment ? Discuss the effect of **CFC** on environment.
- 23 Explain the working of a **Cottrel** electrostatic precipitator.
- 24 How is **NO.** determined ? Discuss.
- 25 How is "phosphate" **contentent** of water estimated ? Explain.
- 26 Briefly explain ion exchange method of waste water treatment.
- 27 What are the problems associated with radioactive solid-waste disposal ? Discuss.
- 28 How does power generation pollute environment ? Explain.

(5 x 2 = 10 **Weightage**)

IV. Answer any *two* questions. Each question carries a **weightage** of 4 :

- 29 Write a brief account of the current environmental problems.
- 30 List the various air pollutants. Discuss their impact on environment.
- 31 Write notes on :
 - (a) Noise pollution.
 - (b) Thermal pollution.

(2 x 4 = 8 **Weights**)