

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86**  
**(For candidates admitted during the academic year 2011 –12 & thereafter)**

**SUBJECT CODE: 11CH/UI/EC23**

**B.A./B.Sc./B.Com. / B.V.A./ B.C.A. / B.S.W. DEGREE EXAMINATION**  
**NOVEMBER 2014**

**REG.NO .....**

**COURSE : INDEPENDENT ELECTIVE**

**PAPER : ENVIRONMENTAL CHEMISTRY**

**TIME : 30 MINUTES**

**MAX.MARKS : 30**

**SECTION – A**

**(30x1=30)**

**ANSWER ON THE QUESTION PAPER ITSELF.**

**Answer all the questions.**

**I Choose the correct answer:**

1. In paper industry, the commonly used bleaching agents are  
a)  $\text{Cl}_2$  and  $\text{ClO}_2$     b) S and  $\text{SO}_2$     c)  $\text{KMnO}_4$     d)  $\text{K}_2\text{Cr}_2\text{O}_7$
2. Which part of the body is damaged from lead poisoning?  
a) Heart    b) lungs    c) kidney    d) brain
3. Which of the following processes does not increase the amount of  $\text{CO}_2$  in the atmosphere?  
a) decay of animals    b) breathing    c) burning of petrol    d) photosynthesis
4. The radiation primarily responsible for the production of ions in the ionosphere is  
a) micro wave    b) ultra violet    c) visible    d) infrared
5. Among the following, which is not a green house gas ?  
a)  $\text{CH}_4$     b) CFC    c)  $\text{CO}_2$     d)  $\text{N}_2$
6. The main cause of Minamata disease is  
a) Lindane    b) mercury    c) cadmium    d) acid rain
7. The mineral component of soil originates from  
a) parent rock    b) micro organisms    c) soil fauna    d) acids
8. The temperature in the troposphere region is  
a)  $15^\circ\text{C}$  to  $-56^\circ\text{C}$     b)  $20^\circ\text{C}$     c)  $-56^\circ\text{C}$     d)  $-56^\circ\text{C}$  to  $-20^\circ\text{C}$
9. The main constituent of 'SMOG' is  
a) Sulphates    b) Peroxides    c) Monoxides    d) Fluorides
10. Hardness of water is estimated using  
a) thio    b) Blue Vitriol    c) EDTA    d) DO

11. Waste water from textile industry contains higher  
a) DO                      b) COD                      c) BOD                      d) hardness
12. The effect of 'acid rain' can be counter acted by the action of  
a) Potash                      b) Caustic soda                      c) NaCl                      d) Lime
13. The 'BOD value' gives the measure of  
a) organic pollution                      b) oxygen value                      c) DDT level                      d) CFC level
14. The essential micronutrient for plant is  
a) C                      b) N                      c) B                      d) K
15. 'Love Canal Episode' is related to  
a) Skin Cancer                      b) Lung Cancer                      c) Eye irritation                      d) ill health

**II Fill in the blanks:**

16. Ozone in stratosphere absorbs \_\_\_\_\_ radiation.
17. DO is essential for the survival of \_\_\_\_\_ plants.
18. Aldrin is a \_\_\_\_\_.
19. RO process is used in \_\_\_\_\_.
20. The metal alkyl used to raise the octane number of petrol is \_\_\_\_\_.

**III Answer in one or two sentences:**

21. Define Pollutant and contaminants.
22. What is humus?
23. What is meant by LD<sub>50</sub>?
24. Why do we use catalytic convertors in automobiles?

25. What is primary treatment of waste water?

26. What is photochemical smog?

27. What is eutrophication?

28. Define COD.

29. What are the components of the hydrosphere?

30. DDT

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**TIME : 2½ HOURS**

**MAX. MARKS: 70**

**SECTION - B**

**Answer any FIVE questions:**

**(5x 6 = 30)**

1. Discuss the methods used in the purification of drinking water?
2. What are CFCs? What are the consequences of their presence in the environment?
3. Write a brief account of toxicity of Cadmium and lead.
4. Explain the importance of N and K in soil.
5. Outline the methods adopted for nuclear waste disposal.
6. What are the causes and consequences of acid rain?
7. Discuss the Chernobyl episode.

**SECTION - C**

**Answer any TWO questions:**

**(2x 20 = 40)**

8.
  - a) Discuss the structure of atmosphere.
  - b) What are the characteristics of effluents from a detergent industry? Discuss the methods employed in controlling pollution due to such effluents. (10+10)
9.
  - a) Describe the different environmental segments
  - b) Give an account of toxicity of Hg, Cr and Pb. Give the antidotes. (10+10)
10.
  - a) Write a note on green house effect.
  - b) What are the effects of nitrogen oxides and CO in air? How are they controlled? (10+10)
11.
  - a) Discuss the methods of treatment for domestic and industrial wastes.
  - b) List out the different methods of pest control. Explain the integrated pest management strategy. (10+10)

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