

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86
(For candidates admitted during the academic year 2004 –05 & thereafter)

SUBJECT CODE: CH/MO/EC14

B.Sc. DEGREE EXAMINATION, NOVEMBER 2007
BRANCH IV- CHEMISTRY
FIRST SEMESTER

REG.NO

COURSE : MAJOR OPTIONAL

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. The temperature in the troposphere region is
a) 15°C to – 56°C b) 20°C c) -56°C d) -56°C to -20°C
2. The main constituent of 'SMOG' is
a) Sulphates b) Peroxides c) Monoxides d) Fluorides
3. Hardness of water is estimated using
a) thio b) Blue Vitriol c) EDTA d) DO
4. One of the greenhouse gas is
a) H₂ b) O₂ c) H₂O d) CO₂
5. Aquatic pollutants are broadly classified into
a) 6 heads b) 2 heads c) 4 heads d) 5 heads
6. 'Ozone' level in stratosphere is
a) 0 PPM b) 10 PPM c) 5 PPM d) 15 PPM
7. Waste water from textile industry contains higher
a) DO b) COD c) BOD d) hardness
8. The effect of 'acid rain' can be counter acted by the action of
a) Potash b) Caustic soda c) NaCl d) Lime
9. The 'BOD value' gives the measure of
a) organic pollution b) oxygen value c) DDT level d) CFC level
10. 'Minamata disease' is related to
a) Africa b) Japan c) Italy d) India
11. The essential micronutrient for plant is
a) C b) N c) B d) K

12. 'Grass land soils' are called as
a) Podzol soils b) Clay soil c) Sediment soils d) Chernozem soils
13. 'Selenosis' is related to
a) Se b) Hg c) Cl d) Pb
14. 'Diquat' is used for the eradication of
a) animals b) plants c) human kind d) microbes
15. 'Love Canal Episode' is related to
a) Skin Cancer b) Lung Cancer c) Eye irritation d) ill health

II. State whether true or false:

16. The study of water is termed as Hydrology.
17. Acid rain is a global problem defying local solution.
18. N.P.K are not micronutrients.
19. "Activated Sludge Process" is a primary purification process.
20. Peroxy acylnitrate is an eye irritant.

III. Fill in the blanks:

21. Ion selective electrode method is used for the estimation of _____.
22. Mesosphere shows _____ rate.
23. DO is essential for the survival of _____ plants.
24. Aldrin is a _____.
25. Stefan's law is _____.

IV. Answer the following in one or two sentences:

26. Receptor

27. isokinetic sampling

28. DO

29. LD50

30. Structure of SIMAZENE is

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TIME : 2 ½ HOURS

MAX.MARKS : 70

SECTION – B

(5x6=30)

Answer any five questions.

1. Draw the temperature profile of atmosphere and explain what happens in the different regions.
2. What are the important steps involved in the management of solid wastes?
3. Explain about hydrological cycle.
4. “Ambient air quality standards” – Comment.
5. Write a brief note on Trickling Filters.
6. How are COD of water and chloride content of water determined?
7. Write brief notes on
 - i) Minimata disease
 - ii) Love Canal Episode

SECTION – C

(2X20=40)

Answer any two questions.

8.
 - a) Describe the horizon that would be found in a typical soil. (5)
 - b) Explain about earth's radiation balance. (5)
 - c) Describe the different environmental segments. (10)
9.
 - a) What is photochemical smog? Write a scheme for photochemical smog. (10)
 - b) How are TOC and N-content of soil determined? (10)
10.
 - a) ‘What is acid rain’? Explain its adverse effects. (10)
 - b) Describe chemical methods used in the treatment of water supplied for drinking purposes. (10)
11.
 - a) How can the pollution caused by textile and Tannery industries be controlled? (10)
 - b) Mention the toxic effects of Hg, Cr, Pb. Suggest their antidotes. (10)

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