

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
APRIL 2015

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. The lower region of the atmosphere which extends upto 100 Km is _____
a) Homosphere b) Heterosphere c) Exosphere d) mesosphere
2. A ozone depleting substances is
a) H₂ b) N₂ c) CFC d) SO₂
3. The contamination of water by _____ causes Typhoid Fever.
a) Salmonella b) Vibrio Cholerae c) Shigella d) Entamoeba
4. _____ is the primary pollutant released from tanneries.
a) Cr b) acids c) smoke d) fly ash
5. The chemical responsible for Bhopal disaster is
a) methyl isocyanate b) DDT c) Carbaryl d) α naphthol

II Fill in the blanks:

6. _____ is the antidote for arsenic poisoning.
7. The common trace metal present in superphosphate fertilizers is _____.
8. Water samples with _____ BOD value are considered to be polluted.
9. Temporary hardness of water is due to _____.
10. Dissolved oxygen can be removed by using _____.

III State whether true or false:

11. Cars equipped with catalytic converters cannot use leaded petrol.
12. Acid rain has a pH of 6.2
13. Global temperatures seem to follow carbon dioxide concentrations.
14. BOD is a measure of pollutant load.
15. Peroxy benzoyl nitrate is not poisonous than peroxy acyl nitrate.
16. Fluorosis causes hypermineralisation of skeleton and painful joints in human beings.

IV Match the following:

- | | |
|-----------------------------|--|
| 17. NO ₂ | a) Removal of toxic chemicals from water |
| 18. polynuclear hydrocarbon | b) Itai Itai disease |
| 19. CFC | c) primary pollutant |
| 20. Incineration | d) Benzo (α) pyrene |
| 21. Carbon adsorption | e) destroys ozone layer |
| 22. Cadmium | f) alternative to land fill |

V Answer in one or two sentences:

23. What is stratopause?
24. What is the origin of NO_x pollution?
25. What is COD? Mention its significance.
26. Name any two carcinogens released from dyeing industries along with their carcinogenic effect.
27. What is a mutagenic substance?
28. What are the main constituents of Smog?
29. Define L.D.₅₀ value.
30. What is Eutrophication?

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TIME : 2½ HOURS

MAX. MARKS: 70

SECTION - B

Answer any FIVE questions:

(5x 6 = 30)

1. How are N and P contents of soil determined?
2. How is the green house effect produced? Mention any four sources of Green house gases.
3. Write briefly on the sources and characteristics of effluents from tannery and textile industries.
4. Discuss the various steps involved in the treatment of municipal and domestic waste water.
5. List out the various segments of environment and explain each of them.
6. What are the measures to be taken to control the emission of NO_x and SO_x .
7. Write a note on Minamata Disease.

SECTION - C

Answer any TWO questions:

(2x 20 = 40)

8. List out the various segments of environment and explain each of them.
9. Write short notes on the following:
 - a) acid rain and its adverse effects.
 - b) CFC's – consequences and alternatives. (10+10)
10.
 - a) Discuss Hydrological cycle.
 - b) How is the chloride and hardness content in water estimated? (10+10)
11.
 - a) Briefly explain the following
 - (i) Love canal episode (8)
 - (ii) Itai Itai disease (8)
 - b) Explain the toxicity of DDT and cadmium. (6)
 - c) Explain indoor air pollution with examples. (4)
