

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

SUBJECT CODE: 11CH/PE/IM14
M.Sc. DEGREE EXAMINATION, NOVEMBER 2012
BRANCH IV- CHEMISTRY
FIRST SEMESTER

REG.NO

COURSE: ELECTIVE

PAPER : INDUSTRIAL WASTE MANAGEMENT

TIME : 30 MINUTES

MAX.MARKS : 20

SECTION – A (20x1=20)
ANSWER ON THE QUESTION PAPER ITSELF.
Answer all the questions.

I Choose the correct answer:

1. The amount of DO in pure water at 25° C is
a. 9mg/L b. 15 mg/L c. 3 mg/L d. 20 mg/L
2. Arsenic interferes with biochemical processes involving
a. Cd b. Fe c. Co d. P
3. Among the following, which is not a hazardous solid waste?
a. chemicals b. inflammable wastes c. explosives d. crop residue
4. An organization's commitment and policy is governed by the principle I of
a. ISO 9002 b. ISO 14000 c. ISO 14004 d. EPA act.

II State whether the following statements or True or False:

5. A detritor removes grit from wastewater.
6. Delay and decay is one of the principles employed in the management of radioactive wastes.
7. Itai-Itai disease is caused by PCBs.
8. Activated sludge process utilizes fixed bed reactor.

III Match the following:

- | | |
|-------------------------|--|
| 9. Primary pollutant | a. Sulphur dioxide removal |
| 10. Coagulant | b. Dairy waste |
| 11. Slurry of limestone | c. H ₂ S |
| 12. Casein | d. Al ₂ (SO ₄) ₃ |

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TIME : 2½ HOURS

MAX.MARKS : 80

SECTION – B

(5x8=40)

Answer any five questions:

1. How do cyclone collectors and electrostatic precipitator control particulates? (4+4)
2. Write briefly on: a) Sedimentation and b) Electrodialysis. (4+4)
3. What is water recycling? What are the environmental benefits of water recycling?
4. Discuss the toxic effects of cadmium and mercury. (4+4)
5. Describe the functioning of oxidation ponds and anaerobic digesters. (4+4)
6. List out and explain the problems of urbanization.
7. Give a brief account of coastal management techniques.

SECTION – C

(2x20=40)

Answer any two questions.

8. a. What is meant by enhanced green house effect? What are its causes and consequences? (10)
b. How are cyanides removed from wastewater? Explain the traditional and modern methods of removal of metals from wastewater. (10)
9. a. Explain how solid wastes can be disposed of by sanitary landfills and incineration. (10)
b. Write an account of Chernobyl accident and Bhopal gas tragedy. (5+5)
10. a. What are the powers and functions of central and state boards according to Water (Prevention and Control of Pollution) Act 1981? (10)
b. What are the criteria to be followed in environmental impact assessment to obtain useful results? (10)
