TB145130 **Reg. No……...…**

Name.…….....……

B. Sc. DEGREE (C.B.C.S.S) EXAMINATION, OCTOBER, 2016

FIFTH SEMESTER- OPEN COURSE (CHEMISTRY)

CHE5EC – ENVIRONMENTAL CHEMISTRY

Time: Three Hours **Maximum: 80 Marks**

PART A

I. Short answer questions (Answer all questions. Each question carries 1 mark)

1. Name the heavy metal connected with Minamata Disease.
2. London smog is --------- in nature.
3. The enzyme inhibited by Cd^{2+} is ---------.
4. Name an antidote for mercury poisoning
5. One water born disease is ------- .
6. Give the full form of SAR.
7. Define Bioaugmentation.
8. …….is used to remove radioactive caesium 137 in Chernobyl
9. Define gypsum requirement of soil.
10. Leaf necrosis is due to ------- .

(1 × 10 = 10)

PART B

II. Brief answer questions (Answer any eight questions. Each question carries 2 marks)

11. What are the causes of acid rain ?
12. What is biomagnification? What are its consequences ?
13. What are the biochemical effects of PAN ?
14. Write notes on no-conventional energy sources.
15. What is salinity? How is it expressed?
16. Explain Iodometric method.
17. How will you determine hardness of water ?

(P.T.O)

18. Write a note on air pollution control devices.
19. Define effluent.
20. Explain Phytoremediation
21. Define cation exchange capacity of soil. How will you measure it?
22. Write briefly on solid waste management.

(8 × 2 = 16)

PART C

III. Descriptive (Short essay questions) (Answer any six questions. Each question carries 4 marks)

23. Write notes on the effect of electric and magnetic field on environment.
24. Explain the biochemical toxicity of carbon monoxide.
25. What are the major pathways of lead in the environment?
26. Discuss about ISO14001 system.
27. Distinguish between BOD and COD.
28. Comment on the environmental degradation of Kuttanadu wet land.
29. Distinguish between aerobic and anaerobic methods of treatment of waste water.
30. List the composition of industrial and municipal wastes.
31. Discuss about the sampling procedures used in soil analyses.

(6 × 4 = 24)

PART D

IV. Long essay type questions (Answer any two questions. Each question carries 15 marks)

32. What is ozone layer? What is its significance? What are the reasons for the depletion of ozone layer. What are its consequences?
33. Describe the methods used for the estimation of (a) fluoride (b) nitrate (c) lead (d) coliform.
34. What is green chemistry? Explain its principles with illustrations.
35. (a) What are the chemical methods used in waste water treatments?
    (b) Write a note on membrane techniques.

(2 × 15 = 30)