E 1669 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2015

Sixth Semester

Choice based Core Course—ENVIRONMENTAL CHEMISTRY

[Common for B.Sc. Chemistry Model – I, Model – II and B.Sc. Petrochemicals, B.Sc. Chemists Environment and Water Management]

Time : Three Hours Maximum Weight : 25

Section A

Answer **all** *questions.*
Each bunch of four questions carries a weight of 1.

I. 1 ——— is a major renewable natural resource.

2 The reverse of the electrolytic cell is called ———.

3 The enzyme inhibited by Cd^{2+} include ———.

4 The important biochemical action of As is ———.

II. 5 Minamata incident is due to ——— metal.

6 ——— is an example for primary air pollutant.

7 Photochemical smog is an ——— smog.

8 MIC is the starting material for the production of ———.

III. 9 ——— is an essential requirement of aquatic life.

10 The permissible limit for filterable Fe in drinking water is ——— ppm.

11 Total hardness can be determined by ——— method.

12 pH range for drinking water is ———.

IV. 13 A typical productive soil consists of ——— % organic and inorganic matter.

14 One of the macronutrient of the soil is ———.

15 Top layer of soil is called ———.

16 ——— is an important component of environmental chemical cycles.

$(4 \times 1 = 4)$

Section B

Answer any **five** *questions.*
Each question carries a weight of 1.

17 Give any *one* basic principle of environmental planning.

18 What is the Biochemical effects of Hg ?

Turn over

19 What is meant by ozone depletion ?

20 Give any *two* source of water pollution.

21 What is SPM ?

22 Define cation exchange capacity.

23 Give the composition of soil.

24 What are carcinogenic substances ?

(5 × 1 = 5)

Section C

Answer any **four** *questions.*
Each question carries a weight of 2.

25 Write short note on renewable source of energy.

26 What are the biochemical effects of pestcides and PAN.

27 What are the cause and consequences of acid rain ?

28 Briefly write on thermal pollution.

29 How is phosphate and fluoride in water sample determined ?

30 Explain the ion-exchange reaction in soil.

(4 × 2 = 8)

Section D

Answer any **two** *questions.*
Each question carries a weight of 4.

31 (a) Discuss briefly on various techniques of atmospheric sampling.

(b) How are CO, H_2S SO_2 and hydrocarbon in air monitored ?

32 Describe the methods for the estimation of the following water quality parameters pH, CO_2, alkalinity and hardness.

33 Explain the procedure for sampling and estimation of Ca, Mg and pH of soil.

(2 × 4 = 8)