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H-6342

M.Sc. (Semester-IV) Examination, June 2022

CHEMISTRY

(Environmental Chemistry)

Time Allowed : Three Hours

Maximum Marks : 70

Minimum Passing Marks : 25

Note : This question paper is divided into four sections.
Attempt questions from all the sections as directed.
Distribution of marks is given in each section.

SECTION-A

(Objective Type Questions)

Note : Attempt **any ten** questions. Each question carries **1** mark. [1x10=10]

(A) Fill in the blanks :

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(1)

[P.T.O.]

1. (i) Non-biodegradable pollutants material, such as
- (ii) When biosphere turns into human dominated environment, it is called
- (iii) Maximum greenhouse gas is released by country.
- (iv) Environmental planning organization is
- (v) Concentration of PAN is maximum in
- (vi) Acute aquatic toxicity is measure in
- (B) Multiple Choice questions :
- (vii) Main air pollutant among the following is :
- (a) CO
 - (b) CO₂
 - (c) N₂
 - (d) Sulphur
- (viii) Depletion of the ozone layer is caused due to:
- (a) Ferrocene
 - (b) Fullerenes

- (c) Freons
- (d) Polyhalogens
- (ix) Find the secondary pollutant among these :
 - (a) PAN (b) N_2O
 - (c) SO_2 (d) CO_2
- (x) Pollution can be controlled by :
 - (a) Sewage treatment
 - (b) Checking atomic blasts
 - (c) Manufacturing electrically operated vehicles
 - (d) All of the above
- (xi) In sea, dissolved mercury ions are easily absorbed in:
 - (a) Plants
 - (b) Sediments
 - (c) Animals
 - (d) Fats

(xii) Which of the following is the consequence of Industrial Pollution ?

- (a) Increase in the water level in seas
- (b) Release of the hazardous radiations
- (c) Increase of the animals in forests
- (d) Global warming

SECTION-B

(Very Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **02** marks. (Word limit **25-30** words) [5x2=10]

- 2.
- (i) Write the name of oxide of sulphur.
 - (ii) What is sampling of soil?
 - (iii) What do you mean by Recycle, Reuse and Recovery?
 - (iv) What is denitrification? Give example.
 - (v) Write the sources of CO and NO_x

- (vi) What is Global warming?
- (vii) Write reverberating of sound.

SECTION-C

(Short Answer Type Questions)

Note : Attempt **any five** questions. Each question carries **04** marks. (Word limit **250** words) [5x4=20]

3. (i) Write the Determination of Total Nitrogen.
- (ii) Describe Sulphur dioxide sources; Analysis and control of air pollution.
- (iii) Discuss the Biological Sewage Treatment.
- (iv) Write short note on pharmaceutical industries.
- (v) Describe the impact of toxic chemicals on enzymes, pesticides and carcinogens.
- (vi) Write short notes on the following :
- (a) Sampling of water and its preservation
 - (b) Analysis of hydrocarbon in exhaust gases.

- (vii) Explain Aerosols and its effect on air pollution.

SECTION-D

(Essay Type Questions)

Note : Attempt **any three** questions. Each question carries **10** marks.(Word limit more than **500** words)[3x10=30]

4. (i) Discuss Polymer Industry and its pollution problems.
- (ii) Discuss the photochemical smog and its control.
- (iii) Describe the determination of Na, Mg, Ca, K, P and Sulphur in Soil.
- (iv) Write short notes on the following :
- (a) Measurement of noise level
- (b) Acid Rain
- (c) Eutrophication

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