

SEAT No. _____

No. of Printed Pages: 02

(A-21)

SARDAR PATEL UNIVERSITY

M. Sc. -Integrated Biotechnology – Seventh Semester Examination

Monday, 18th March 2019

Time: 02:00 pm to 05:00 pm

PS07CIGEB1: Environmental Chemistry

Total Marks – 70

Q.1

Mark the right answer of following questions.

[08]

- Which gas is mainly produced due to incomplete burning of wood?
a. CO b. CH₄ c. SO₂ d. NO₃ e. H₂S
- The disappearance of the plants and animals is due to the _____ depletion in water.
a. Nitrogen b. Chlorine c. Oxygen d. Ozone e. Carbon
- Which of these factor is NOT a cause in an increase in land pollution?
a. Toxic waste c. Increase in solid waste on open area
b. Radioactive waste d. Proper disposal of cans in nearby beans
- The principal source of hydrocarbon is _____.
a. Transportation c. Industrial processes
b. Stationary fuel combustion d. Volcanoes
- Which of the following is an indicator of organic water pollution?
a. BOD b. pH c. Salinity d. Eutrophication e. NO_x
- Sheet erosion is caused by _____.
a. Fast running rivers c. Wind
b. Heavy rains d. Gaciers
- Which of the following atoms most often limits the primary productivity of an ecosystem?
a. Sulfur b. Phosphorus c. Nitrogen d. Carbon e. Iron
- The main nitrogen reservoir is _____.
a. Ocean b. Rocks c. Atmosphere d. Living organisms

Q.2 Answer the following questions. (ANY SEVEN OUT OF NINE)

[14]

- Write examples of soil pollutants with suitable sources.
- Write significance of biogeochemical cycles.
- Define global warming and write adverse effects of it.
- Define pollutants. Enlist examples of reservoirs for water pollutants.
- Define photochemical smog. Write the examples of air pollutants monitoring techniques.
- Draw well labelled diagram of soil profile.
- Give the examples of biological and radioactive pollutants.
- What are the preventive measures of soil erosion?
- Differentiate assimilatory and dissimilatory processes of biogeochemical cycles.

- Q.3 A. What is greenhouse effect? Write examples of GHGs and explain the effects of GHE in detail. [06]
B. Enlist examples of air pollutants with appropriate sources. Describe adverse effects of pollutants on environment and living organisms. [06]
- OR*
- B. Summarize ozone depletion by different pollutants and write impacts of ozone depletion. [06]
- Q.4 A. What are the types of water pollution? Outline physical and chemical properties of water. [06]
B. Define eutrophication. Explain different types of reactions in various water bodies. [06]
- OR*
- B. Write a note on water pollution. [06]
- Q.5 A. Explain physicochemical properties and cation exchange capacity of soil. [06]
B. What are the adverse effects of soil erosion? Explain different types of soil erosions. [06]
- OR*
- B. Write a note on physiochemical treatment processes for contaminated soil. [06]
- Q.6 A. Give an account on carbon cycle. [06]
B. Draw nitrogen cycle. Explain ammonification and nitrification processes. [06]
- OR*
- B. Describe biological sulfur oxidation and reduction. [06]

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(2)