

ASSIGNMENT BOOKLET
Bachelor's Degree Programme (B.Sc.)
ENVIRONMENTAL CHEMISTRY

(Valid from 1st January, 2021 to 31st December, 2021)

**It is Compulsory to submit the Assignment before filling in the
Term-End Examination Form.**

Please Note

- You can take electives (56 to 64 credits) from a minimum of TWO and a maximum of FOUR science disciplines, viz. Physics, Chemistry, Life Sciences and Mathematics.
- You can opt for elective courses worth a MINIMUM OF 8 CREDITS and a MAXIMUM OF 48 CREDITS from any of these four disciplines.
- At least 25% of the total credits that you register for in the elective courses from Life Sciences, Chemistry and Physics disciplines must be from the laboratory courses. For example, if you opt for a total of 64 credits of electives in these 3 disciplines, at least 16 credits should be from lab courses.
- You cannot appear in the Term-End Examination of any course without registering for the course. Otherwise, your result will not be declared and the onus will be on you.



School of Sciences
Indira Gandhi National Open University
New Delhi
(2021)

Dear Student,

We hope, you are familiar with the system of evaluation to be followed for the Bachelor's Degree Programme. At this stage you may probably like to re-read the section on assignments in the Programme Guide that we sent you after your enrolment. A weightage of 30 percent, as you are aware, has been earmarked for continuous evaluation, which would consist of one tutor-marked assignment. The assignment is based on Blocks 1-6 of this course.

Instructions for Formatting Your Assignments

Before attempting the assignments, please read the following instructions carefully.

1. On top of the first page of your answer sheet, please write the details exactly in the following format:

ENROLMENT NO.....
NAME:.....
ADDRESS:.....
.....
.....

COURSE CODE :

COURSE TITLE :

ASSIGNMENT NO.:

STUDY CENTRE : DATE:.....
(NAME AND CODE)

PLEASE FOLLOW THE ABOVE FORMAT STRICTLY TO FACILITATE EVALUATION AND TO AVOID DELAY.

2. Use only foolscap size writing paper (but not of very thin variety) for writing your answers.
3. Leave 4 cm margin on the left, top and bottom of your answer sheet.
4. Your answers should be precise.
5. While writing answers, clearly indicate the Question No. and part of the question being solved.
6. Please note that:
 - i) The Assignment is valid from **1st January, 2021 to 31th December, 2021.**
 - ii) The response to this assignment is to be submitted to the Study Centre Coordinator within eight weeks of the receipt of this booklet in order to get the feedback and comments on the evaluated assignment.
 - iii) In any case, you have to submit the assignment response before filling the exam for the term end examination.
7. We strongly suggest that you should retain a copy of your assignment responses.
Wishing you all good luck.

Tutor Marked Assignment
ENVIRONMENTAL CHEMISTRY
Application Oriented Course in Chemistry

Course Code: AEC-01
Assignment Code: AEC-01/TMA/2021
Maximum Marks: 100

Note: Answer all the questions given below.

- 1 a) What are the different types of rocks? Describes the formation of any one. (5)
- b) Define the following terms: (5)
 - i) Exfoliation
 - ii) P / E ratio
 - iii) Soil taxonomy
 - iv) Polypedon
 - v) Soil texture
- 2 a) Describe the sedimentation technique of soil analysis? (5)
- b) What do you understand by the hydrodynamics of fresh water ecosystems? (5)
Describe it in case of ground water.
- 3 a) How do the following parameters affect the water quality of a water body?
 - i) Turbidity (6)
 - ii) Odour
 - iii) Electrical conductivity
- b) What are the effects of organic compounds, nitrate and metals on water quality and ultimately to human health? (4)
- 4 a) Write down any four standards used for defining water quality criteria and describe in brief. (5)
- b) i) What is the basis of dividing the atmosphere into various regions?
ii) Write the major components of atmosphere and state the altitude upto which the composition remains uniform. (5)
- 5 a) Explain in brief the process involved in the formation of clouds. (5)
- b) Why rains are likely in summer when air is warm and why heavy precipitation is likely when the temperature is low? (5)
- 6 a) What are various sources which generate carbon dioxide in the atmosphere? (5)
Mention the sink for this gas and describe its fate in the atmosphere.
- b) What are the components of photochemical smog? How is it formed in the atmosphere? (5)
- 7 a) How is urbanisation affecting the meteorological parameters in general? Explain taking three parameters into consideration (5)
- b) What do you understand by the following pollution parameters? (5)
 - i) Total suspended solids

- ii) Particulate matter
- 8 a) Briefly explain the sources of dairy wastes. Also discuss their treatment using aeration. (5)
- b) Explain how pesticides enter into water and air. (5)
- 9 a) What are surfactants? Discuss their determination and removal from sewage. (5)
- b) Giving suitable examples, state different groups of pollutants in water to which animals and humans are most likely to get exposed. (5)
- 10 Write short notes on: (10)
- i) Air quality monitoring agencies of India
- ii) Sampling for the determination of soil pollution.
- iii) Most probable number method of microbiological study.
- iv) Electronic transition in organic molecules