

ASSIGNMENT BOOKLET

**M.Sc. in Chemistry Programme
(MSCCHEM)**

**M.Sc. in Analytical Chemistry Programme
(MSCANCHEM)**

GREEN CHEMISTRY

Valid from 1st July, 2026 to 30th June, 2027

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



**School of Sciences
Indira Gandhi National Open University
Maidan Garhi, New Delhi-110068
(2026-27)**

Dear Student,

Please read the Section on assignments in the Programme Guide for M.Sc. in Chemistry/M.Sc.in Analytical Chemistry that we sent you after your enrolment. A weightage of 30 per cent, as you are aware, has been earmarked for continuous evaluation, which would consist of one tutor-marked assignment for this course. The assignment is in this booklet, and covers all the four blocks of the course. The total marks of all the parts are 100, of which 40% are needed to pass it.

Instructions for Formatting Your Assignments

Before attempting the assignment 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:**

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) Solve Part (A) and Part (B) of this assignment, and **submit the complete assignment answer sheets within the due date.**
- 6) The assignment answer sheets are to be submitted to your Study Centre within the due date. **Answer sheets received after the due date shall not be accepted.**

We strongly suggest that you retain a copy of your answer sheets.

- 7) This assignment is **valid from 1st July, 2026 to 30th June, 2027**. If you have failed in this assignment or fail to submit it by June, 2027, then you need to get the assignment for the year 2027, and submit it as per the instructions given in the Programme Guide.
- 8) **You cannot fill the examination form for this course** until you have submitted this assignment.

We wish you good luck.

Tutor Marked Assignment

MCH-011: INORGANIC CHEMISTRY 1

Course Code: MCH-019

Assignment Code: MCH-011/TMA/2026-27

Maximum Marks: 100

Note: Attempt all questions. The marks for each question are indicated against it.

1. In the year 2001 on what topic was the nobel prize in chemistry awarded? Who received it? Give the exact work on which it was awarded. (5)
2. What causes ozone layer depletion? Give the names of the chemicals involved. What is atom economy? (5)
3. What are the ways by which the structure of the target molecule to be synthesized can be manipulated? (5)
4. While using transition metal catalysts, what are the precautions to be taken? (5)
5. Give some methods of purification of compounds. (5)
6. Give the methods by which bioavailability may be decreased. (5)
7. Why the Toxicity of a chemical to animals or wildlife is an area which has to be researched? (5)
8. Define acid rain. How does it differ from normal rainwater? Explain the formation of sulfuric acid in the atmosphere leading to acid rain. (5)
9. Define global climate change. How does it differ from global warming? What is the role of carbon dioxide in global climate change? (5)
10. Discuss the evidence supporting global climate change. (5)
11. Discuss the importance of atom economy in the green synthesis of ibuprofen. (5)
12. Which are the volatile organic compounds used as solvents in industries? Give suitable examples. (5)
13. Discuss the principles of green chemistry and explain how microorganisms function as environmentally benign synthetic catalysts. (5)
14. What are the major stages involved in marine biofouling? (5)
15. What is meant by a "safe marine antifoulant"? (5)
16. How the use of renewable feed stocks is important in Green chemistry? Explain with suitable examples. (5)
17. Discuss the limitations of carbon dioxide as a blowing agent. (5)
18. Give the commercial names of PET. Which monomers are used in the synthesis of PET? (5)
19. Name the intermediate formed during the synthesis of polyethylene terephthalate (PET) from (5)

dimethyl terephthalate and ethylene glycol, and draw its structure.

20. Identify the by-product formed during the reaction of dimethyl terephthalate with ethylene glycol (5) and explain its origin.