MCH-019

ASSIGNMENTBOOKLET

M.Sc. in Chemistry Programme
(MSCCHEM)

M.Sc. in Analytical Chemistry Programme
(MSCANCHEM)

GREEN CHEMISTRY

(Valid from January, 2026 to December, 2026)

It is compulsory to submit the assignment before filling in the examination form.

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

DearLearner,

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 : ……

(NAME AND CODE)

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

1) Use only foolscap size paper (but not of very thin variety) for writing your answers.
2) Leave about 4 cm margin on the left, top and bottom of your assignment response sheet.
3) Your answers should be precise.
4) Submit the complete assignment answer sheets within the due date.
5) 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.
6) This assignment is valid from **1st January, 2026 to 31st December, 2026**. If you have failed in this assignment or fail to submit it by **31st December, 2026**, then you need to get the assignment for the year **2027**, and submit it as per the instructions given in the Programme Guide.
7) **You cannot fill the examination form for this course until you have submitted the assignment.**

Wishing you good luck

Tutor Marked Assignment
MCH-019: GREEN CHEMISTRY

Course Code: MCH-019
AssignmentCode:MCH-019/TMA/2026
MaximumMarks:100

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

1.	Explain the need and origin of green chemistry.	(5)
2.	Explain the principle of use of renewable feed stocks.	(5)
3.	Giving a suitable example show that for substitution reaction, the atom economy is less than 100%.	(5)
4.	What are the characteristics of reagents used in the chemical reactions? Which point should be kept in mind while choosing a reagent from the green chemistry point of view?	(5)
5.	How can catalysis and process analytical chemistry be used as a tool in green chemistry?	(5)
6.	How would you proceed for preparing a chemical compound? Discuss the aspects related to planning, requirements and safety for such a synthesis.	(5)
7.	What are oxidation and reduction reactions? Give one example of each type of theses reactions.	(5)
8.	How would you modify a molecule if it contains a toxic group in its structure?	(5)
9.	(i) Which aspects related to the toxicity of a chemical should be kept in mind while making a wiser choice?	(3)
	(ii) Give any two examples of the greenhouse gases.	(2)
10.	Explain the formation of photochemical smog using a suitable diagram.	(5)
11.	Write the steps involved in the Boots synthesis of ibuprofen.	(5)
12.	Discuss the use of polymers containing fluorine atoms in the tail part for dissolving industrial material.	(5)
13.	How is catechol produced starting from benzene? Give the sequence of reactions involved.	(5)
14.	How BHT is produced? Write the scheme of synthesis with reactions.	(5)
15.	What is DCOI? Write its structure and use. List the advantages of DCOI as compared to TBTO.	(5)
16.	Give a brief account of insecticides developed by Rohm and Haas.	(5)
17.	What is EPS? Give its uses.	(5)
18.	How is white paper produced? Explain.	(5)
19.	(i) What is PET? Write its uses.	(3)
	(ii) Briefly explain PETRETEC process.	(2)
20.	Write the steps involved in the synthesis of pregabalin.	(5)