
DSCDM July - 2026

ASSIGNMENT BOOKLET

**Diploma in Smart City Development and Management
(DSCDM)**

Last date for submission:

30th April 2027

**School of Engineering and Technology
Indira Gandhi National Open University
Maidan Garhi, New Delhi - 110068**

Dear Student,

We advise you to go through your course material carefully and read all the units pertaining to assignments. 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 each of MIO – 001, MIO – 002, MIO – 003, MIO – 004 and MIO – 005 of these courses. You need to score a minimum of 40 marks out of 100 marks in each of the assignments. **Submit the handwritten assignments at your Study Centre or your Regional Centre or Programme Coordinator, DSCDM, Room No.104, Block-C, SOET, IGNOU Campus, Maidan Garhi, New Delhi-68.**

Instructions for Formatting Your Assignments

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

1) On top of the first page of your TMA 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 full-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) Only handwritten assignments acceptable. No typed assignments

6) While solving problems, clearly indicate the question number along with the part being solved. Be precise. Recheck your work before submitting it.

Answer sheets received after the due date shall not be accepted.

We strongly feel that you should retain a copy of your assignment response to avoid any unforeseen situation and append, if possible, a photocopy of this booklet with your response.

We wish you good luck.

Assignment -5
(To be done after studying the course material)

Course Code: MIO – 005
Course Title: Smart Cities: Safe Water, Sanitation and Sustainability
Assignment Code: MIO – 005/TMA/2026 July
Maximum Marks: 100

1. Attempt all questions. All questions carry equal marks.

Q.1	(a) Mention the water quality standards for clean and safe drinking water.	5
	(b) Discuss the major issues in smart city water supply.	5
Q. 2	(a) Discuss the smart solutions for water management in smart cities	5
	(b) What are the vulnerability assessment elements in the water supply system?	5
Q. 3	(a) What is SCADA system? Describe its uses in water management.	5
	(b) Discuss various factors that are considered in water quality program designing.	5
Q. 4	(a) Discuss the purpose of advance water treatment and the techniques used in advance water treatment.	5
	(b) Draw the flowcharts of water treatment plant for surface water and ground water.	5
Q. 5	Discuss various types of sewerage systems.	10
Q. 6	(a) Discuss various factors affecting the quantity of dry weather flow.	5
	(b) Enlist various methods for determination of quantity of sanitary sewage. Discuss anyone in detail.	5
Q. 7	(a) Draw the generalized flow diagram of sewage treatment system.	5
	(b) Discuss the advanced sewage treatment processes.	5
Q. 8	(a) Discuss the physical and chemical characteristics of solid waste.	5

	(b) Discuss biological processing methods of solid waste.	5
Q. 9	(a) Discuss various solid waste conversion technologies in brief.	5
	(b) Describe the design parameters which are considered while planning the landfill.	5
Q. 10	(a) Discuss the problems associated with conventional value-added products.	5
	(b) What are bio fertilizers? Describe the types of bio-fertilizers and their benefits.	5

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