

**ASSIGNMENT BOOKLET**

**MASTER OF SCIENCE (INDUSTRIAL SAFETY)  
(MSCIDS)**

**THIRD SEMESTER**

**Last date for submission:**

**31<sup>st</sup> October 2026 for July 2026 Session**

**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 sections pertaining to assignments. As you are aware, a weightage of 30 per cent of marks, has been earmarked for continuous evaluation which would consist of **one tutor-marked assignment** for each of MIS-031, MIS-032, MIS-033, MIS-034, MIS-035 and MEV016 courses. You have to score a minimum of 40 marks out of 100 marks in each of the assignment. **Submit your assignments to: The Programme Coordinator (MSCIDS), SOET, IGNOU, Maidan Garhi, New Delhi-110068**

### 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:

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|                      |            |
|----------------------|------------|
| ENROLLMENT NO: ..... |            |
| NAME: .....          |            |
| ADDRESS: .....       |            |
| .....                |            |
| E-mail ID : .....    |            |
| COURSECODE: .....    |            |
| COURSE TITLE: .....  |            |
| PROGRAMME : .....    |            |
| STUDY CENTRE: .....  | DATE:..... |

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**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 a 2 cm margin on the left, top and bottom of your answer sheet.
- 4) Your answers should be precise.
- 5) **Only hand written answers are acceptable. Do not submit typed or photocopied answers.**
- 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 situations and append, if possible, a photocopy of assignment questions with your response.**

We wish you good luck.

**Assignment -1**  
**(To be done after studying the course material)**

**Course Code: MIS-032**  
**Course Title: Risk Assessment and Vulnerability Analysis**  
**Assignment Code: MIS-032/TMA/2026**  
**Maximum Marks: 100**  
**Last Date of Submission: 31<sup>st</sup> October, 2026**

**2. Note: Attempt all questions. All questions carry equal marks.**

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|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Q.1 | a) What is Risk Assessment? List out its categories.<br>b) What are the key steps involved in conducting Hazard and Operability (HAZOP) studies?                                          | 5+5 |
| Q.2 | a) Why is it important to identify minimal cut steps in Fault Tree Analysis (FTA)?<br>b) What is primary difference between qualitative and quantitative risk analysis.                   | 5+5 |
| Q.3 | a) How can geographic information systems (GIS) be used in vulnerability analysis to improve disaster preparedness.<br>b) Explain how a risk matrix is used in qualitative risk analysis? | 5+5 |
| Q.4 | a) What is emergency plan? Explain briefly.<br>b) What is risk mitigation and why is it important in industrial safety management?                                                        | 5+5 |
| Q.5 | a) Describe the three main types of risk communication with the help of suitable examples.<br>b) What is Emergency Response Training? List out its key responsibilities.                  | 5+5 |
| Q.6 | a) What is environmental risk assessment? What does environmental risk encompass?<br>b) How is the safety management system documentation managed in the industry? Explain briefly.       | 5+5 |
| Q.7 | What is vulnerability analysis? Explain the process of vulnerability analysis.                                                                                                            | 10  |
| Q.8 | a) Discuss the role of risk assessment software in enhancing safety management system.<br>b) What action could be taken to prevent a repeat of the Bhopal Gas Tragedy? Explain briefly.   | 5+5 |
| Q.9 | a) How the Real-Time Artificial Intelligence (AI) technique help in work place safety.<br>b) Explain the significance of Factories Act, 1948 in assuring work place safety?               | 5+5 |

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|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Q.10 | Write short notes on the following:<br>a) Risk Mapping<br>b) Event Tree Analysis<br>c) Validation and Testing in vulnerability analysis<br>d) Safety Management System | 4X2.5=10 |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|