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**PGCINDS- 2023**

**ASSIGNMENT BOOKLET**

**POST GRADUATE DIPLOMA IN INDUSTRIAL SAFETY  
(PGCINDS)**

**Last date for submission:**

**30<sup>th</sup> September for July 2023 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. 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 MIS021, MIS022, MIS023 & MIS024 of this course. You have to score a minimum of 40 marks out of 100 marks in each of the assignments. **Submit your assignments at your respective Regional Centre.**

### 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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**ENROLMENT NO:** .....

**NAME:** .....

**ADDRESS:** .....

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**COURSECODE:** .....

**COURSE TITLE:** .....

**ASSIGNMENT NO.:** .....

**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 4 cm margin on the left, top and bottom of your answer sheet.
- 4) Your answers should be precise.
- 5) Only hand written assignments are 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 situations and append, if possible, a photocopy of this booklet with your response.**

We wish you good luck.

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

**Course Code: MIS-021**  
**Course Title: Safety Philosophy and Principles of Accident Prevention**  
**Assignment Code: MIS-021/TMA/2023**  
**Maximum Marks: 100**  
**Last Date of Submission: September 30, 2023**

**Note:**

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

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Q.1	Define accident. Why do accidents happen? What are the various causes of accidents?	10
Q.2	Explain the importance of industrial safety. Briefly describe various types of safety with suitable examples.	10
Q.3	a) What is PPE? Explain importance of PPE for safety of respiratory system also discuss the equipments used for it.	5
	b) Explain any two agents to fight fire.	5
Q.4	a) 4.What is a safety organization? Draw a safety organization chart of any company.	5
	b) Explain the four levels of responsibilities of safety organization.	5
Q.5	a) 5.What is SEIRI and what are the benefits an industry can derive from practicing?	5
	b) Briefly state the check points to ensure safe loading of a crane.	5
Q.6	What are the advanced investigation techniques? Explain any one of them.	10
Q.7	Describe the insurance based approach for the cost analysis of an accident in brief.	10
Q.8	What is a safety management system? Describe the important management approaches towards safety management system.	10
Q.9	Write short notes on the following: a) A.Safety organization chart b) B.safety training evaluation c) C.Fault tree analysis d) D. Hazard control system	20

**Assignment -2**  
(To be done **after** studying the course material)

**Course Code: MIS-022**  
**Course Title: Industrial Safety: Rules and Acts**  
**Assignment Code: MIS-022/TMA/2023**  
**Maximum Marks: 100**  
**Last Date of Submission: September 30, 2023**

**Note:**

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

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Q.1	a) What is Safety Engineering? Explain its importance in Industrial Occupations.	5
	b) Explain how hazard is identified and controlled under back drop of Osha's action plan?	5
Q.2	a) What are the four pillars of safety design? Describe briefly.	5
	b) What is occupational safety training? What is its significance in industry?	5
Q.3	a) What are the general responsibilities of an occupier according to factories Act 1948? Discuss.	5
	b) What is EMS? What is it related to safety engineering?	5
Q.4	a) Discuss the welfare activities for which an occupier is held responsible towards women employees.	5
	b) What is safety audit? What is its significance? How does it differ from a financial audit?	5
Q.5	a) What is standardization? Discuss the role of BIS in monitoring and maintaining standards.	5
	b) What do you understand by the term 'Factory Worker'? Explain in detail.	5
Q.6	a) What do you understand by the term 'Liability'? How do you approach liability in a legal sense?.	5
	b) Briefly explain the terms and conditions of the agreement between plaintiff and defendants.	5
Q.7	a) Discuss the specific responsibilities of the occupier in relation to hazardous process.	5
	b) Briefly explain about the Judgement in safety eases.	5
Q.8	a) Describe the general penalty for offences under section 92 to 106A.	5
	b) What are violations found out by the enquiry committee during the	5

	inspection.	
Q.9	a) Describe the power presses regulations of 1965 of the factories.	5
	b) Describe the penalty and compensation for damage to a computer system and its components.	5
Q.10	Write short notes of the following (i) Safety Training Model (ii) Risk Assessment	10

**Assignment -3**  
(To be done **after** studying the course material)

**Course Code: MIS-023**  
**Course Title: Safety in Construction Industry**  
**Assignment Code: MIS-023/TMA/2023**  
**Maximum Marks: 100**  
**Last Date of Submission: September 30, 2023**

**Note:**

**3. Attempt all questions. All questions carry equal marks.**

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Q.1	a) Discuss the need for safety in the construction industry.	5
	b) Describe the causes of accidents.	5
Q.2	a) Discuss the following accident causation theories: (i) Domino theory (ii) Energy transfer theory	5
	b) Describe the accident prevention techniques.	5
Q.3	a) Discuss the benefits of accident prevention.	5
	b) What is PPE? Describe important components of PPE and their uses.	5
Q.4	a) Discuss the safety precautions to be taken in excavation works.	5
	b) What is tunneling? Mention the hazards and risks involved in tunneling work.	5
Q.5	a) What is ventilation? Discuss the needs and types of ventilation.	5
	b) Discuss various methods of dust control.	5
Q.6	a) Discuss the special air monitoring requirements in underground works.	5
	b) What is scaffolding? Discuss various types of scaffolding.	5
Q.7	a) what is ladder? Describe various types of ladder. Describe safe practices during use of ladders.	5
	b) What are commonly used equipment for material handling applications.	5
Q.8	a) What are the potential risks to the environment due to construction activities?	5
	b) Describe the waste management methods at a construction site.	5
Q.9	a) Discuss the methods of demolition. Mention the hazards and risks involved in demolition works.	5

	b) Describe different types of training of workers. Mention the essentials of a good training.	5
Q.10	Discuss a case study on accidents in construction. The case should be different from those given in the study material. Discuss the following aspects of the accident: <ol style="list-style-type: none"><li>i. Cause of accident</li><li>ii. Description of losses/ damages in an accident</li><li>iii. Remedial measures taken</li><li>iv. Preventive measures that could have avoided the accidents</li></ol>	10

**Assignment -4**  
(To be done **after** studying the course material)

**Course Code: MIS-024**  
**Course Title: Mechanical and Electrical Safety Management**  
**Assignment Code: MIS-024/TMA/2023**  
**Maximum Marks: 100**  
**Last Date of Submission: September 30, 2023**

**Note:**

**4. Attempt all questions. All questions carry equal marks.**

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Q.1	a) What do you understand about safe guarding? Discuss about various methods of safeguarding.	5
	b) Write down the importance of proper training of workers before job work.	5
Q.2	a) Define material handling. List some principles of material handling. What are the advantages of material handling?	5
	b) Explain in detail, various safety tips of material handling .	5
Q.3	a) What is mechanical material handling? What are the risk factors associated with mechanical materials handling?	5
	b) Define design and fault. Describe in detail, fault avoidance technique.	5
Q.4	What is reliability? What are safety laws and the roles of supervisors and training in industrial safety.	10
Q.5	a) What is a wood manufacturing plant? What are the main precautions workers should follow in a wood plant?	5
	b) Why push back and Anti Kick back systems are required? Explain.	5
Q.6	a) Explain in brief the various safety hazards in welding operations?	5
	b) What is PPE? List out the PPE's. Explain the use of PPE's in welding process.	5
Q.7	What is UCIL and which material was causing the health hazard in the UCIL accident? What are the main factors for the accident? Explain.	10
Q.8	a) What are the correct equipments to prevent fire in the work place? Explain.	5
	b) Define conductor. What are the safety measures while measuring higher resistance using Megger.	5
Q.9	State the sequence of operations to be carried out for working at high voltage.	10
Q.10	a) What is First Aid? What are the procedures of First Aid to be followed	5



	for unconscious electric shock victims?	
	b) What is the purpose of First Aid in Education and Training? Explain various training methods.	5