

PGCINDS- 2021

ASSIGNMENT BOOKLET

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

Last date for submission:

30th April for January 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 section 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 MIS-021, MIS-022, MIS-023 and MIS-024 of this course. You have to score a minimum of 40 marks out of 100 marks in each of the assignments. **Submit your assignment response at Programme Coordinator (PGCINDS), Block-C, School of Engineering & Technology, Indira Gandhi National Open University, Maidan Garhi, New Delhi - 110068**

A feedback form is enclosed with this assignment. Please complete it after solving this assignment and send it to the Course Coordinator (PGCINDS) on the address specified on the feedback form.

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) 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 -1

(To be done **after** studying the course material)

Course Code: MIS-021

Course Title: Safety Philosophy and Principles of Accident Prevention

Note:

Assignment Code: MIS-021/TMA/2021

Maximum Marks: 100

- 1. For any question worth 5 marks the word limit is 200 words, for a 10 mark question it is 350 words.**
 - 2. All questions are compulsory. All questions carry equal marks.**
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|-----|-------------------------------------|--|--------------------------|
| Q.1 | a) | Discuss the role of certain forces in harnessing the cause of safety. | 5 |
| | b) | Explain the importance of permit procedures with suitable example. | 5 |
| Q.2 | a) | What is PPE? Explain importance of training employees regarding proper usage of PPE. | 5 |
| | b) | Explain any two agents to fight fire. | 5 |
| Q.3 | a) | Briefly describe the various levels of responsibility in the Safety Cell of a large organization. | 5 |
| | b) | Write down any five important principles of material handling. | 5 |
| Q.4 | a) | What is SEIRI and what are the benefits an industry can derive from practicing it? | 5 |
| | b) | Briefly state the check points to ensure safe loading of a crane. | 5 |
| Q.5 | a) | Describe the important management approaches towards safety management system. | 5 |
| | b) | What are the loss control techniques? How these are used to reduce the possibility of a loss and limit the severity? | 5 |
| Q.6 | a) | How incentives, recognition and rewards are important in safety culture? | 5 |
| | b) | Explain in detail the audit process and the activities involved in it | 5 |
| Q.7 | a) | What are the advanced investigation techniques? Explain any one of them. | 5 |
| | b) | A company has 100 full-time employees working 2,000 hours per year. It reported 70 lost work days due to accidents in 2014. Calculate the severity rate. | 5 |
| Q.8 | a) | Describe the insurance based approach for the cost analysis of an accident in brief. | 5 |
| | b) | Discuss the importance of accident prevention in brief. | 5 |
| Q.9 | Write short notes on the following: | | (5 X 4 = 20) |
| | a) | Ergonomics in the industry | c) Fault tree analysis |
| | b) | Types of accident | d) Hazard control system |

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/2021

Maximum Marks: 100

Note:

1. For any question worth 5 marks the word limit is 200 words, for a 10 mark question it is 350 words.
 2. All questions are compulsory. All questions carry equal marks.
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|-----|----|---|---|
| Q.1 | a) | What do you understand by Industrial Safety Rules and Acts? Explain briefly. | 5 |
| | b) | What are the factors consider for designing of safety? List out benefits of safety. | 5 |
| Q.2 | a) | Explain safety organization chart with safety functions. | 5 |
| | b) | What is safety training? Describe the various models applied in safety training. | 5 |
| Q.3 | a) | Discuss about safety legislation and safety audit. | 5 |
| | b) | Describe the overview of Factories Act 1948 and list out the duties & responsibilities of the occupier. | 5 |
| Q.4 | a) | Discuss the obligations of an occupier? What are the responsibilities of the factory manager? | 5 |
| | b) | Discuss briefly about penalties and procedures. | 5 |
| Q.5 | a) | Describe the process of approval, licensing and registration of factories. | 5 |
| | b) | Explain the procedure for grant of license. | 5 |
| Q.6 | a) | What is standardization and certification? And why ISO certification is required for Industry? | 5 |
| | b) | What is ISO 45000 and safety audit? Explain briefly | 5 |
| Q.7 | a) | Describe the principle of ISO certification and list out the benefits of the certification. | 5 |
| | b) | What are the various provisions under Factory Act-1948? Explain briefly. | 5 |

- Q.8 a) What are the various employment rules adopted in the Industry? 5
b) Explain about liabilities, responsibilities and legal status. 5
- Q.9 a) Describe the specific responsibilities of the occupier in relation to hazardous process. 5
b) Describe briefly the general penalty of offences under Section 92 to 96. 5
- Q.10 a) Describe the factories power presses regulations 1965 5
b) Explain a suitable case study related to computer offenses. 5

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/2021

Maximum Marks: 100

Note:

1. For any question worth 5 marks the word limit is 200 words, for a 10 mark question it is 350 words.
 2. All questions are compulsory. All questions carry equal marks.
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| Q.1 | a) | Explain different accident prevention techniques in the construction industry. | 5 |
| | b) | Enlist the different reasons of accident at construction site in India. | 5 |
| Q.2 | a) | What are the major areas of consideration to be included in training programme for employees to be engaged in underground construction works? | 5 |
| | b) | Describe any method for tunnel construction. | 5 |
| Q.3 | a) | What are the safety aspects to be followed in underground projects? | 5 |
| | b) | Explain the following:
(i) Single pole scaffold
(ii) Independent scaffold | 5 |
| Q.4 | a) | What are the different lifting machineries used on a construction site? | 5 |
| | b) | Explain safety measures while using pulleys. | 5 |
| Q.5 | | Explain different safety measures to be taken by employer regarding conveyors and cranes. | 10 |
| Q.6 | a) | Explain different sources of air and noise pollution at construction sites. | 5 |
| | b) | How soil erosion can be minimized? Explain in brief. | 5 |
| Q.7 | | Explain hazards and risks in demolition works in detail. | 10 |
| Q.8 | | Explain the following:
(i). Training for personal safety
(ii). Training for equipment safety
(iii). Training for environment safety | 10 |
| Q.9 | | Explain different safety precautions taken by employers and workers when operating or maintaining on following:
(i). Powered industrial trucks
(ii). Slings | 10 |

- Q.10 Discuss a case study on accident in construction. The case study should be different from other than given in course material. Analyze the following related to the accident: 10
1. Cause of accident
 2. Preventive measures that could have avoided in accident
 3. Description of losses/damages in accident
 4. Remedial measures taken

Assignment -4

(To be done **after** studying the course material)

Course Code: MIS-024

Course Title: Mechanical and Electrical safety

Assignment Code: MIS-024/TMA/2021

Maximum Marks: 100

Note:

1. For any question worth 5 marks the word limit is 200 words, for a 10 mark question it is 350 words.
 2. All questions are compulsory. All questions carry equal marks.
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Q.1	a) What are the criteria for selection of job safety analysis in industry?	5
	b) Discuss the criteria to identify hazards in the work place?	5
Q.2	Explain various types of machine safeguarding devices in machinery.	10
Q.3	a) What are main aims and various advantages of correct material handling in industry?	5
	b) Write down different risk factors associated with manual handling and how it can be avoided.	5
Q.4	a) What are the main possible failures in a abrasive wheel?	5
	b) How Kick Back problem associated with manufacturing of timber products is avoided?	5
Q.5	Discuss the primary causes of electrical hazards. How it can be avoided?	10
Q.6	a) Write down the importance of fuse in electrical equipments and how does it work?	5
	b) What is the reason of electric shock and what are the different effects of electric shock?	5
Q.7	Explain the role of earth leakage protective device and earthing in electrical safety concern.	10
Q.8	What are the main precautions carried out at the time of work at high voltage lines?	10
Q.9	What are the attributes of a First Aid Provider? Explain CPR process in brief.	10
Q.10	a) What is the purpose of First Aid in Education and Training?	5
	b) Write down the various steps taken during first aid of poisoning by ingestion case accident in plant.	5