

Roll No.

Subject Code—887-X

P. G. Diploma EXAMINATION

(Re-appear)

INDUSTRY SAFETY MANAGEMENT

PGDISM-01

Principles of Industrial Safety

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. Define Industrial Safety. Discuss the need and importance of industrial safety.
2. What are the causes of industrial accidents ? Explain.
3. Write a detailed note on the philosophy of accident prevention.

(1-10)

P.T.O.

4. Explain the various cost and consequence of an accident.
5. What welfare and safety measures should be taken by industrial organizations to minimise accidents ?
6. What are the responsibilities of management, workers and trade unions towards industrial safety ?
7. Define Ergonomics. Explain its objectives and importance.
8. Write short notes on the following :
 - (a) Safety Movement in India
 - (b) Critical Incident.

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INDUSTRY SAFETY MANAGEMENT

PGDISM-02

Industrial Toxicology, Environment

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. What are the causes and sign of stress in occupation environment ? Suggest the measures of prevention of stress at work.
2. What do you mean by Occupational Environment ? What working conditions can affect health and safety of workers ?
3. Discuss the different types of fatigue and suggest the mitigatory measures of fatigue.

4. Discuss in detail the occupational diseases caused by Particulate Matter.
5. What are the mode of action of industrial toxic substances ? Discuss the affects of different industrial toxic chemicals on human health.
6. Suggest the environmental and medical measures for prevention and control of occupational diseases.
7. What are the causes of Air Pollution ? Suggest the control measures for different types of Air Pollutants.
8. What are the purposes of ventilation ? Discuss in detail the working of Local Exhaust Ventilation.

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INDUSTRY SAFETY MANAGEMENT

PGDISM-03

Industrial Hazards and Accidents

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. Explain the terms with suitable diagrams :

- (a) House-keeping
- (b) Machine Guards
- (c) Explosives and Detonators
- (d) First Aid
- (e) Hand Tools and Power Tools. **5×4=20**

(1-10)

P.T.O.

2. Define Mechanical Hazards. Discuss various hazards related to cutting and tearing, crushing and welding. Discuss various precautionary and protective measures to avoid mechanical hazards. 20
3. (a) Discuss various electrical hazards in the industries. 10
(b) Suggest a plan to control electric hazards in the industries. 10
4. Define Chemical Hazards. Discuss the effects of chemical hazards, their prevention and control strategies. 20
5. (a) Briefly explain the industrial hazards from inflammable and volatile materials. 10
(b) Write a brief note on fire control measures in industries. 10
6. Give a detailed account of various hazards and preventive measures related to building construction and demolition. 20

7. (a) Explain various hazards related to pressure vessel rupture and discharges from safety valves. 10
- (b) Explain methods and strategies to control pressure related hazards in the industries. 10
8. Write brief notes on the following : 10,10
- (a) Principles of accident prevention in industries
- (b) Internal transport and Safety in industries.

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INDUSTRY SAFETY MANAGEMENT

PGDISM-4

Safety Management and Organization

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. What is the rationale of safety management at different levels ? Explain the basic approaches to safety management.
2. Explain the key considerations while formulating a safety plan. Discuss with relevant examples at each stage.

(1-13)

P.T.O.

3. Discuss the exact nature of safety department.
Explain the responsibilities of the employees of safety department in diverse departments.
4. Explain the relationship between safety and industrial relations. What role do the trade unions play in safety ?
5. Why do we impart training to the employees ?
Explain the various methods of employee training.
6. Define Motivation for Safety. How do past factors help in motivating for safety ?
7. What is the importance of Safety Training ?
Discuss the steps involved in developing safety training programme.
8. Write notes on any *two* of the following :
 - (a) What are the powers of safety leaders ?
 - (b) Discuss the importance and types of communication in safety.
 - (c) Explain the forms of workers participation and their effectiveness.
 - (d) Explain various campaigns for safety management.

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INDUSTRY SAFETY MANAGEMENT

PGDISM-4

Safety Management and Organization

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. What is the rationale of safety management at different levels ? Explain the basic approaches to safety management.
2. Explain the key considerations while formulating a safety plan. Discuss with relevant examples at each stage.

(1-13)

P.T.O.

3. Discuss the exact nature of safety department.
Explain the responsibilities of the employees of safety department in diverse departments.
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 - (a) What are the powers of safety leaders ?
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INDUSTRY SAFETY MANAGEMENT

PGDISM-05

Safety Statistics and Accident Inspection

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. Calculate Mean, Standard Deviation and Karl Pearson's Coefficient of Skewness from the following data :

Profits (Rs. Lakhs)	No. of Companies
70-80	12
80-90	18
90-100	35
100-110	42

(1-10)

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110-120	50
120-130	45
130-140	30
140-150	8

2. What do you mean by Statistics ? Explain the applications and limitations of statistics in detail.
3. The following table gives the aptitude test scores and productivity indices of 10 workers :

Aptitude Scores (X) Productivity Index (Y)

60	68
62	60
65	62
70	80
72	85
48	40
53	52
73	62
65	60
82	81

Calculate correlation coefficient between X and Y by using regression coefficients.

4. (a) Explain the properties of Binomial Distribution.
- (b) The mean weight of 500 male students in a college is 75 kgs and the standard deviation is 7.5 kg. Assuming that weights are normally distributed, find how many students weigh (a) between 60 and 75 kg. (b) more than 85 kg.
5. What do you understand by Time Series Analysis ? Explain the different components of Time Series Analysis.
6. (a) A drilling machine bores holes with a mean diameter of 0.5230 cm and a standard deviation of 0.0032 cm. Calculate the 3 sigma control limits for means of samples 4 and prepare a control chart.
- (b) Write a detailed note on Inspections Mode and Periodicity.

7. (a) The mean height obtained from a random sample of size 100 is 64 inches and standard deviation is 3 inches. Test the statement that the mean height of population is 67 inches at 5% level of significance.

(b) A random sample of size 16 has 53 as mean. The sum of squares of the deviations taken from mean is 135. Can this sample be regarded as taken from the population having 56 as mean ? Test the statement at 1% and 5% level of significance.

8. Write detailed notes on the following :

(a) Safety Permit System

(b) Reporting techniques of Accident Investigation.

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INDUSTRY SAFETY MANAGEMENT

PGDISM-06

Safety Legislations and Codes and Workmen's
Compensation Pertaining to Factory Boiler &
Their Administration

Time : 3 Hours

Maximum Marks : 100

— **Note :** Attempt any *Five* questions. All questions
carry equal marks.

1. Discuss the health and safety provisions of the
Factories Act, 1948.
2. What are the main provisions of the Workmen's
Compensation Act, 1923 ?

(1-10)

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3. Explain the various benefits provided to workers under the Employees State Insurance Act, 1948.
4. Discuss the role of ILO in promotion of Uniform Safety Standards.
5. What are the safety provisions of Boilers Act, 1923 ? Discuss its shortcomings.
6. What is meant by occupational diseases ? Discuss the occupational diseases as mentioned in the Factories Act, 1948 and Workmen's Compensation Act, 1923.
7. Explain the hazards and codes in Iron and Steel Industry, Engineering Industries and Chemical Industry.
8. Explain the following :
 - (a) Administration of the Factories Act, 1948.
 - (b) Hazards and Codes in Construction Industries.

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INDUSTRY SAFETY MANAGEMENT

PGDISM-07

Computer Applications in Safety Management

Time : 3 Hours

Maximum Marks : 50

Note : Attempt any *Five* questions. All questions carry equal marks.

1. Explain in detail use of computers in safety management.
2. What do you understand by operating system ? Explain major functions performed by operating system.
3. What do you mean by DBMS ? Discuss the various types of DBMS models.

(2-72)

P.T.O.

4. What is System ? Explain the various phases of system development life-cycle.
5. What are various types of charts available in any spreadsheet ? Describe the steps involved in creating a chart.
6. Define Presentation. Discuss the role played by multimedia in making business presentation.
7. What are computer related ethical issues ? Elaborate these issues with reference to India.
8. Write notes on the following :
 - (a) Word Processing
 - (b) Managing information systems project.