

**C-3001**

**Sub. Code**

**90711**

**P.G. DIPLOMA EXAMINATION, APRIL 2022**

**Non-Semester**

**Fire and Industrial Safety**

**FIRE SAFETY : DESIGN , INSTALLATION AND  
MAINTENANCE**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Mention the general causes of fire.
2. What is the difference between flash point and fire point?
3. How the fire extinguisher can be classified.
4. How the fire extinguisher can be inspected.
5. What is IR flame detector?
6. What is mean by riser?
7. List out the demerits of detectors.
8. How the fire pumps can be classified.
9. Define occupant load.
10. List out the classifications of building.

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Define the following terms:

- (i) Fire point
- (ii) Flash point
- (iii) Auto ignition temperature
- (iv) Flammable
- (v) Combustible

Or

(b) Short notes on fire safety in public places.

12. (a) Write the suitability of portable fire extinguisher.

Or

(b) Develop a maintenance checklist for fire extinguisher.

13. (a) Briefly explain about UV flame detector.

Or

(b) Explain in brief about siting of manual call points.

14. (a) Write short notes on size of mains.

Or

(b) List out the effective procedure for pumping arrangement.

15. (a) Write short notes on "Capacity of exits".

Or

(b) Explain in brief about "Overlapping fire zone".

**Part C**

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain in detail about EDP installation.

Or

- (b) Detail explanation about:

- (i) Fire triangle
- (ii) Fire pentagon
- (iii) Fire load

17. (a) Explain in detail about Fire extinguisher size and placement.

Or

- (b) Explain in detail about Automatic fire detector.

18. (a) Explain in detail about Riser and Mains.

Or

- (b) Write in detail about types of exits.

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**C-3002**

**Sub. Code**

**90712**

**P.G. DIPLOMA EXAMINATION, APRIL 2022**

**Non-Semester**

**Fire and Industrial Safety**

**ELECTRICAL AND CHEMICAL SAFETY**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is mean by electrical safety?
2. Define first aid.
3. What is mean by electric shock?
4. Write the human body with stand current value.
5. Define fuse.
6. What is mean by ELCB?
7. What is mean by interlock mechanism?
8. What is mean by discharge rod?
9. How to classify of hazardous zone?
10. Define intrinsically, safe equipment

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write short notes about effect of shock in human body.

Or

- (b) Explain about electrical inspectorate roles and responsibilities.

12. (a) Write some do's and don'ts while using electrical equipment.

Or

- (b) Explain the following terms

(i) Electric arc

(ii) Electric spark.

13. (a) What is mean by FRLS insulation and write its features?

Or

- (b) Explain about over load protection.

14. (a) Explain about self diagnostic features.

Or

- (b) What is the safety features followed while using portable devices?

15. (a) Write short notes on certifying agencies.

Or

- (b) Write short notes on temperature classification.

**Part C**

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain about IE rules.

Or

- (b) Briefly explain about the electrical hazards.

17. (a) Write the importance of earthing and how to maintain the earthing.

Or

- (b) Explain about the LOTO.

18. (a) Explain the usage of barriers and isolators in the electrical system.

Or

- (b) Explain about classification of enclosure for hazardous locations.

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**C-3003**

**Sub. Code**

**90713**

**P.G DIPLOMA EXAMINATION, APRIL 2022**

**Non-Semester**

**Fire and Industrial Safety**

**INDUSTRIAL SAFETY AND TOXICOLOGY**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define Industrial Hygiene
2. What is Digestive System?
3. Mention the types of Vibration.
4. What is mean by Leptospirosis?
5. How the Chemical enter into the body.
6. Define Threshold Limit Values.
7. What is Risk Assessment?
8. What are the hazards presence in manual handling?
9. List out three layers of skin.
10. What is mean by Neurological test?

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write short notes on "Defensive system"

Or

- (b) List Out the Human system and explain in brief.

12. (a) Briefly explain about "Vibration" and its control measures.

Or

- (b) Short notes on "HIV".

13. (a) What is Hepatotoxic agents? and explain in brief.

Or

- (b) Write short notes on "Stages of toxicological evaluation".

14. (a) Briefly explain about "Display screen equipment".

Or

- (b) Write short notes on "Design of workplace".

15. (a) List out Microorganism.

Or

- (b) Briefly explain about "Audiometry test".

**Part C**

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain in detail about "Structure of the body".

Or

- (b) Write in detail about "Distribution system".



17. (a) What is Blood borne diseases? and explain in detail.

Or

(b) Write in detail about classification of toxic materials in air.

18. (a) Explain in detail about workplace risk assessment.

Or

(b) Explain in detail about the following terms.

(i) Tennis Elbow

(ii) WRULD.

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**C-3004**

**Sub. Code**

**90714**

**PG DIPLOMA EXAMINATION, APRIL 2022**

**Non-Semester**

**Fire and Industrial Safety**

**CONSTRUCTION SAFETY**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Why do we need respiratory protection while working in industries?
2. What are the three-types of half facemask with filters?
3. What is the purpose of providing welfare facilities for employees?
4. What is meant by drilling and blasting?
5. List what are components in hot mixing plant.
6. How to store acid?
7. What is meant by excavation?
8. Who is authorized for inspecting the excavation?
9. Give two examples for underground-buried services.
10. Give two reasons for collapsing for scaffold collapsing.

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write briefly about head protection?

Or

- (b) Explain three-types of half-face mask in detail?

12. (a) What are the common hazards in industry?

Or

- (b) Explain the causes of accidents in excavation?

13. (a) What are the storage method and precautions to be followed while handling ACETYLENE?

Or

- (b) Explain the guidelines for storing explosives?

14. (a) Briefly explain about safety rules to be followed while erecting scaffold?

Or

- (b) Explain ergonomics in details?

15. (a) Write in detail about safety harness?

Or

- (b) What are the minimum requirements to be followed while installing drinking water facilities?

**Part C**

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain in detail about scaffolding?

Or

- (b) List the emergency action can be done by individual before the arrival of trained first-aider for saving victim.

17. (a) Provide the guideline or precautionary steps to be taken to avoid fire in construction sites?

Or

- (b) Procedures to be followed while transporting explosives. Explain?

18. (a) Explain in details about the safe operations to be followed while making road?

Or

- (b) Explain in detail the way two types of material handled in construction?

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**C-3005**

**Sub. Code**

**90715**

**PG DIPLOMA EXAMINATION, APRIL 2022**

**Non-Semester**

**Fire And Industrial Safety**

**HAZARD IDENTIFICATION RISK ASSESSMENT AND  
RISK CONTROL**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

**(10 × 2 = 20)**

Answer **all** questions.

1. Define - Hazard.
2. Define - Risk.
3. Describe - Risk Register.
4. What is known as Risk Ranking?
5. Write about HAZID.
6. What do you know about PHA?
7. Explain - FTA.
8. Write about HAZOP.
9. Write the short notes on SIL.
10. What is the medium level of Risk?

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Define Risk Matrix.

Or

- (b) What are the basic Industrial Hazards?

12. (a) Write about Risk Evaluation Phase.

Or

- (b) Write about Risk Treatment Phase.

13. (a) Write some notes on PHA.

Or

- (b) Define - Human Reliability Analyzing.

14. (a) List out the Electrical Area Classification.

Or

- (b) Write some SIL Determination Techniques.

15. (a) Write about Risk Priority Number.

Or

- (b) Write about Third Party Certification of Instruments.

**Part C**

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) List out the 12 key elements of a Risk Register template.

Or

- (b) Briefly explain about Risk Ranking.

17. (a) Write short notes on FMEA.

Or

(b) Describe - HAZID and RA.

18. (a) Define - Hazop Methodology.

Or

(b) Write about Combustible and Flammable Gas Detection.

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**C-3006**

**Sub. Code**

**90716**

**PG DIPLOMA EXAMINATION, APRIL 2022**

**Non-Semester**

**Fire And Industrial Safety**

**EHS LEGISLATIONS**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Which type of establishment is covered and the factory act?
2. Which authority enforces the factories act 1948?
3. What does “environment” include and what do you mean by “environment pollutant”?
4. What is ecology?
5. Define duties of authorities in MSIHC.
6. What are the roles and responsibilities of occupier?
7. Write the penalties and procedures of factory act and environment act.
8. What is safety report?
9. Define ISO 14000.
10. Define MSIHC.



**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Who are the certify surgeons and what are the duties?

Or

- (b) Does the factory act apply to factories belonging to the central government?

12. (a) Explain the noise pollution (regulations and control) rules.

Or

- (b) Explain about accounts and audits, penalties and procedure of air and water pollution.

13. (a) Write the preparation of offsite and onsite plan in MSIHC.

Or

- (b) What is worker compensation act and explain briefly.

14. (a) Explain "SMPV" rule.

Or

- (b) Discuss the electricity act and rules.

15. (a) What is "HASWA" 1974 UK?

Or

- (b) Discuss about "ANSI"

**Part C**

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) What are the various provisions of the Indian factories act 1948 regarding leave and wages?

Or

- (b) Discuss about Air pollution and water pollution.

17. (a) Explain Indian BOILER ACT.

Or

- (b) Write about Explosive act 1983.

18. (a) Explain the occupational safety and health act USA.

Or

- (b) Explain briefly about OSHAS 18001.
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**C-3007**

**Sub. Code**

**90717**

**PG. DIPLOMA EXAMINATION, APRIL 2022**

**Non- Semester**

**Fire and Industrial Safety**

**SAFETY IN LOGISTICS AND WAREHOUSE INDUSTRY**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What are the types of forklift?
2. List out the types of Sprinkler.
3. Define Conveyor.
4. Define Warehouse.
5. What is TREM card?
6. What do you mean by SWL?
7. What are the types of Extinguisher?
8. Define Explosion.
9. What is Static Electricity?
10. What is the Replacement of Halon?

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) List out the Parts of EOT crane.  
Or  
(b) Write the advantage and disadvantage of diesel forklift.
12. (a) Explain the Inspection and Maintenance of Vehicle.  
Or  
(b) Explain Alarm System.
13. (a) List out the defects of chain and wire rope sling.  
Or  
(b) Explain Emergency Planning.
14. (a) What are the safety measures to be followed in Chain Pulley Block?  
Or  
(b) Explain the functions of warehouse.
15. (a) Explain CO<sub>2</sub> Flooding System.  
Or  
(b) Explain the Special Safety Measures to Control Fire.

**Part C**

(3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain the Minimum Inventory Control System.  
Or  
(b) Explain the manual handling in detail

17. (a) Explain the Crane Inspection.

Or

(b) Explain the Accident Reporting and Investigation.

18. (a) Explain the Fire Hydrant System.

Or

(b) Explain the Gasoline Handling.

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**C-5390**

**Sub. Code**

**90718**

**PG DIPLOMA EXAMINATION, APRIL 2022**

**Non - Semester**

**Fire and Industrial Safety**

**SAFETY INSPECTION AND AUDIT**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Write about frequency of safety inspection.
2. What is work place inspection record?
3. Write the types of audits.
4. Write the post and audit activities.
5. What is LCA?
6. Define : EMS.
7. Give the features of OSHAS 18001.
8. Give the key changes in ISO 45001.
9. How to initiate OS & H audit?
10. How to collect evidence in the audit?

**Part B**

(5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain : Workplace inspection report.

Or

- (b) Give the duration and importance of workplace inspection.

12. (a) Write the objectives of safety audit.

Or

- (b) Explain the pre – audit activities.

13. (a) Explain the & levels of documentation for ISO 14000 based EMS.

Or

- (b) Explain : ECO labelling.

14. (a) Give the contents of OH & S policy.

Or

- (b) Give the objectives & gargets of OH & S policy.

15. (a) How to execute the OS & H audit explain.

Or

- (b) What are the types of records to be examined during the safety audit explain.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Give the guidelines for implementing OSHAS 18001.

Or

- (b) Explain : EIA and its types, and EIA methodology.

17. (a) How to evaluate audit evidence? Explain.

Or

- (b) Explain the onsite activities of safety audit.

18. (a) Give the comparison between ISO 45001 and OSHAS 18001.

Or

- (b) Explain EIS in detail.

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