

**C-6906**

**Sub. Code**

**21511**

**CERTIFICATE COURSE EXAMINATION, APRIL 2022**

**Non – Semester**

**Fire and Industrial Safety Management**

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

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** the questions.

1. Define 'Safety'.
2. What is 'BLEVE'?
3. What 'Hazard' means?
4. State the uses Extinguishers.
5. Expand the terms UV and IR.
6. Name few fire detectors.
7. What do you mean by 'Fire pump'?
8. List out the requirements of 'Hydrant'.
9. Why fire exits are needed?
10. What is the meaning of 'Occupant Load'?

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Write about the physical and chemical properties of Fire.

Or

- (b) Explain the modes of Heat Transfer.

12. (a) Classify Hazards.

Or

- (b) State the terminology of fire extinguishing technique.

13. (a) Write down the general requirements for fire detection and alarm system.

Or

- (b) List out the detectors and explain any one of them in detail.

14. (a) Explain the Hydrant system with a neat sketch.

Or

- (b) Discuss the maintenance of firefighting systems.

15. (a) Stress the requirements of Fire Exits.

Or

- (b) List out the ways through which one can escape from a fire incident in a building.

**Part C**

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Discuss about the fundamentals of Fire Safety.

Or

- (b) Classify Fire and write about the general causes of fire.

17. (a) Explain a portable fire extinguisher with a neat sketch.

Or

- (b) How you manage a fire accident with extinguishers?

18. (a) Give your ideas to manage a fire incident in a super market.

Or

- (b) State the importance of providing emergency fire exits in your college bus.

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**C-6907**

**Sub. Code**

**21512**

**CERTIFICATE COURSE EXAMINATION, APRIL 2022.**

**Non-Semester**

**Fire & Industrial Safety Management**

**ELECTRICAL AND CHEMICAL SAFETY**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define 'Hazard'.
2. List out some Chemical hazards.
3. Clarify the types of Electrical hazards.
4. State the effects of Short Circuits.
5. Name the components used to minimize Electrical hazards.
6. Brief FRLS.
7. When and where the inter lock system is needed?
8. Stress the use of Lock out and Tag out.
9. What is 'Hazardous Zone'?
10. How temperature is classified?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write about Current and Voltage.

Or

- (b) State Ohm's law and types of electrical faults.

12. (a) What are primary and secondary hazards?

Or

- (b) Differentiate Lightning Arrestor and Earthing.

13. (a) How Fuse is differed from Circuit Breaker?

Or

- (b) Give a short notes on ELCB with a neat sketch.

14. (a) Write few words about protection and inter lock system.

Or

- (b) What is Lock out and Tag out? Point out their uniqueness.

15. (a) Explain the intrinsically safe apparatus with details.

Or

- (b) What do you mean by Explosion proof electrical apparatus?

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write short notes on :
- (i) Power
  - (ii) Resistance
  - (iii) Capacitor and
  - (iv) Inductor

Or

- (b) Classify the Electrical faults.
17. (a) Brief the hazards due to Electricity.

Or

- (b) State your ideas on safe use of Electricity.
18. (a) Discuss hazardous zones in detail.

Or

- (b) Describe the use of Barriers and Isolators.
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**C-6908**

**Sub. Code**

**21513**

**CERTIFICATE COURSE EXAMINATION, APRIL 2022.**

**Non-Semester**

**Fire and Industrial Safety Management**

**INDUSTRIAL SAFETY AND TOXICOLOGY**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is 'Safety'?
2. Brief IH.
3. Define 'Noise'.
4. List out some physical hazards.
5. Name few toxic materials.
6. Expand ACGIH.
7. Brief the term 'Ergonomics'.
8. What do you understand the word 'Tendinitis'?
9. State the advantages of Sampling.
10. Point out few Neurological tests.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on Industrial Hygiene.

Or

- (b) Explain the digestive system with a neat diagram.

12. (a) Brief noise and vibration with their effects.

Or

- (b) Describe the importance of Ventilation.

13. (a) Write about the fundamentals of Toxicology.

Or

- (b) Discuss about the effects of toxic materials.

14. (a) Explain the Man — Machine system.

Or

- (b) Write about safe Manual Handling.

15. (a) Write short notes on Sampling.

Or

- (b) Explain the term 'sampling gases and vapours' in detail.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the various systems in human body.

Or

- (b) Brief Industrial Hygiene and its significance.



17. (a) Clarify the effect of various physical hazards in an industry.

Or

(b) Write about Ventilation and its importance.

18. (a) Why the 'Control of Toxicology' is essential?

Or

(b) Describe Audiometry and various health tests conducted on human body.

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**C-6909**

**Sub. Code**

**21514**

**CERTIFICATE COURSE EXAMINATION, APRIL 2022.**

**Non-Semester**

**Fire and Industrial Safety Management**

**CONSTRUCTION SAFETY**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is 'PPE'?
2. Write few common hazards during construction.
3. What is 'Excavation'?
4. Write the meaning of 'Access and Escape'.
5. Name few vehicles used in construction activities.
6. Expand MEWP.
7. Mention few unsafe conditions at construction sites.
8. Classify Scaffolds.
9. Give the meaning of 'Ergonomics'.
10. List out the various hazards due to electrical equipments.

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) State the common hazards on construction activities with their remedies.

Or

- (b) Explain the major causes of accidents during construction.

12. (a) Point out the factors which cause accidents on Excavation.

Or

- (b) Elaborate confined spaces and their peculiarities.

13. (a) Give the systematic procedures of road making.

Or

- (b) State the uses of Crane and the precautions to be followed on its functions.

14. (a) Discuss about the hazards of Scaffoldings.

Or

- (b) Write short notes on working platform and guard rails.

15. (a) Describe the role of Ergonomics in construction activities.

Or

- (b) Give details about the safe uses of power driven machineries.

**Part C**

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Brief the personal protective equipments used in construction activities.

Or

- (b) Why occupational health and hygiene should improve?

17. (a) Explain the steps to reduce accident during Excavation.

Or

- (b) Brief the responsibilities of supervisors to improve safe construction activities.

18. (a) How the hazards to be managed in road making process?

Or

- (b) What are your suggestions for safe storage and usage of LPG?

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**C-6910**

**Sub. Code**

**21515**

**CERTIFICATE COURSE EXAMINATION, APRIL 2022.**

**Non-Semester**

**Fire and Industrial Safety Management**

**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 'Risk'.
2. What do you mean by 'Safety'?
3. Expand HAZID.
4. What is the use of risk analysis?
5. State the meaning of the word 'Quantitative'.
6. Why hazard analysis is conducted?
7. Brief FMEA.
8. State the advantages of HAZOP.
9. Specify the purpose of safety measures.
10. Why maintenance is carried out?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on safety instrumentation

Or

- (b) What is the functional safety? Explain.

12. (a) List out the preliminaries of plant hazard analysis.

Or

- (b) Give details about risk assessment and management.

13. (a) What is 'Preliminary hazard analysis'?

Or

- (b) Explain 'What if analysis'.

14. (a) What are SIL determination techniques?

Or

- (b) Describe FMEA methodology.

15. (a) State the function of design and engineering in safety concepts.

Or

- (b) List out the steps for safe explosion.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Describe the evaluation of hazard analysis.

Or

- (b) Explain any two quantitative hazard analysis.

17. (a) What are the risks to be analyzed in a plant?

Or

(b) Explain any two risk assessment methods with details.

18. (a) What is HAZOP methodology? Brief

Or

(b) Why reporting and follow up are essential for safety development?

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**C-6911**

**Sub. Code**

**21516**

**CERTIFICATE COURSE EXAMINATION, APRIL 2022**

**Non – Semester**

**Fire Industrial Safety Management**

**EHS LEGISLATIONS**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Brief EHS.
2. State the purpose of Factories act.
3. Write any four acts.
4. Why NOC is required?
5. Name the government authorities to control pollution.
6. Define 'Hazard'.
7. Specify few hazardous chemicals.
8. What do you mean by SMPV?
9. Differentiate Boiler and Pressure vessel.
10. Expand OSHAS.



**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) As per Factories act who are the Statutory Authorities?  
Or  
(b) Write about the salient features of welfare and working hours in Factories act 1949.
12. (a) State the powers of State control board of pollution.  
Or  
(b) Discuss the prevention and control tips in Air act.
13. (a) Give details about the duties of authorities.  
Or  
(b) What Hazardous chemical rules tell about notifications of major accidents?
14. (a) Give short note on Motor vehicle act.  
Or  
(b) Explain Pesticides act.
15. (a) Write short notes on HASAWA.  
Or  
(b) Elaborate ANSI.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) State the main features of Factories act.  
Or  
(b) Point out the provisions related to Safety officers and Inspecting staff.

17. (a) Explain Air act.

Or

(b) Brief Bio Medical waste (Management and Handling) rules 1989.

18. (a) Describe the responsibilities of Occupier.

Or

(b) Discuss Explosives act in detail.

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**C-6912**

**Sub. Code**

**21517**

**CERTIFICATE COURSE EXAMINATION, APRIL 2022.**

**Non-Semester**

**Fire & Industrial Safety Management**

**SAFETY IN LOGISTICS AND WAREHOUSE INDUSTRY**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Define 'Logistics'.
2. What is WMS?
3. State the purpose of TREM card.
4. List out the responsibilities of Driver.
5. Write the purpose of fork lift.
6. Differentiate crane and conveyer.
7. Write few hazards during material handling.
8. Classify cranes.
9. What is 'fire load'?
10. What are fire fighting systems?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on 'Logistics system'.  
Or  
(b) What are the functions of Warehouses?
12. (a) Brief warning symbols and their purposes.  
Or  
(b) Explain the importance of inspection and maintenance of vehicles.
13. (a) What are transport precautions?  
Or  
(b) Write about grease rack operation and water rack operation.
14. (a) Discuss about the hazards during material handling.  
Or  
(b) Point out the precautions to be taken on crane operation.
15. (a) How design of a building affects fire safety?  
Or  
(b) Elaborate the salient features of fire ,explosion and toxicity index.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) Brief the purpose of Logistics.  
Or  
(b) Discuss about MMS.

17. (a) Elaborate the responsibilities of driver and public.

Or

(b) Discuss the inspection methods of tools and tackles.

18. (a) What are the steps to be followed to improve forklift safety?

Or

(b) Describe the methods to increase chain life.

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**C-6913**

**Sub. Code**

**21518**

**CERTIFICATE COURSE EXAMINATION, APRIL 2022.**

**Non-Semester**

**Fire & Industrial Safety Management**

**SAFETY INSPECTION AND AUDIT**

**(2019 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Why audit is required?
2. Stress the importance of work place inspection.
3. Write about the objectives of audit.
4. Give few post audit activities.
5. What for ISO 14001 recognition is given?
6. What are EIA and EMS?
7. State the purpose of ISO 45001.
8. Write about the scope of certification.
9. Mark the objectives of IS 14489.
10. What are the contents in Annexure C?

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the purpose of work place inspection.

Or

- (b) Discuss about the hazards in work place with their remedies.

12. (a) List out the benefits of safety Audit.

Or

- (b) Give the pre audit activities.

13. (a) Describe the guidelines and principles of ISO 14004.

Or

- (b) Discuss about the general principles of LCA.

14. (a) Brief the structure and features of ISO 18001.

Or

- (b) Explain the objectives and targets of OS and H policy.

15. (a) Write few words about preparing and executing audit activities.

Or

- (b) Give the sequences of occupational safety and health audit.

**Part C**

(3 × 10 = 30)

Answer **all** questions.

16. (a) State the importance of work place inspection to improve safety.

Or

- (b) How you enhance safety in work place?

17. (a) What are the requirements of safety audit?

Or

- (b) Differentiate ISO 14000 and ISO 14001.

18. (a) Brief the occupational safety and health audit.

Or

- (b) Compare ISO 45001 and OHSAS 18001.
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