

C-3066

Sub. Code

21511

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

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** questions.

1. What is a Fire?
2. What are the modes of heat transfer?
3. What are the types of Extinguishers?
4. What is PASS method?
5. What are the types of Detectors?
6. What is manual call point?
7. Define Hydrant?
8. What are the types of risers?
9. Define fire load.
10. What are the types of exits?

Part B

(5 × 5 = 25)

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

11. (a) Write short notes on physical and chemical properties of fire.

Or

- (b) Write short notes on fire safety in chemical labs.

12. (a) Write short notes on Selection of fire extinguishers.

Or

- (b) Write short notes on initial inspection of extinguishers.

13. (a) Write short notes on linear heat sensing cables.

Or

- (b) Discuss the merits and demerits of various detectors.

14. (a) Write short notes on underground static water tank.

Or

- (b) Write short notes on Water supplies and Pumping arrangements.

15. (a) Write short notes on water supply requirement.

Or

- (b) Write short notes on overlapping fire zones.

Part C

(3 × 10 = 30)

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

16. (a) Explain fire safety in small scale industries.

Or

- (b) Explain inspection and maintenance of fire extinguishers.

17. (a) Write short notes on.

- (i) UV flame detector.
- (ii) IR flame detector.
- (iii) Optical smoke detector.

Or

- (b) Write a maintenance checklist for fire hydrant.

18. (a) Explain the classification of building based on occupancies.

Or

- (b) Explain the following.

- (i) Fire triangle.
 - (ii) Fire tetrahedron.
 - (iii) Explosion pentagon.
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C-3067

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21512

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

Non- Semester

Fire and 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 Shock.
2. Define Ohms law.
3. Define Static Electricity.
4. What is Current surges?
5. Define FRLS Insulation.
6. What are the types of PPE?
7. What is preventive maintenance?
8. Define Work permit.
9. What is grouping of gases?
10. What are the classification of equipments?

Part B

(5 × 5 = 25)

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

11. (a) Write short note on types of Electrical fault.

Or

- (b) Write short notes on.

- (i) Current.
- (ii) Voltage.
- (iii) Power.
- (iv) Resistance.

12. (a) Write Short notes on.

- (i) Electromagnetic forces.
- (ii) Heating effect of Current.

Or

- (b) Write short notes on.

- (i) Classes of Insulation.
- (ii) Voltage classification.

13. (a) Write short notes on.

- (i) Joints and Cables.
- (ii) Capacity and Protection of Conductor.

Or

- (b) Write short notes on ELCB.

14. (a) Write short notes on Safety in the use of portable tools.

Or

- (b) Write short notes on Protection and Interlock.

15. (a) Write short notes on Use of Barriers and Isolators.

Or

(b) Write short notes on Equipment certifying agencies.

Part C (3 × 10 = 30)

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

16. (a) Explain Indian Electricity rules in detail.

Or

(b) Explain Cardio Pulmonary Resuscitation.

17. (a) Explain Earth Pit maintenance in detail.

Or

(b) Explain PPE and its types in detail.

18. (a) Explain the classification of hazardous zones.

Or

(b) Explain Lightning hazards and its control measures.

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21513

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

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. Define Hygiene.
2. What are all the sense organs?
3. Expand HIV.
4. What are the types of radiations?
5. Expand HAZCHEM.
6. Define Exposure Limits.
7. Define Ergonomics.
8. Expand MSD.
9. Define Sampling.
10. Expand HVAC.

Part B

(5 × 5 = 25)

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

11. (a) Explain the study of Human Systems.

Or

- (b) Explain the digestive system process.

12. (a) Explain the Ionizing Radiation.

Or

- (b) Explain about Hepatitis B virus.

13. (a) Explain the stages of toxicological evaluation process.

Or

- (b) Explain the classification of toxic materials in air.

14. (a) Explain about the Manual Handling.

Or

- (b) What are all the minimum requirements for the workstations?

15. (a) Explain about Lung function tests.

Or

- (b) Discuss about the Sampling Particulates.

Part C

(3 × 10 = 30)

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

16. (a) Explain basic unit of life.

Or

- (b) Discuss about Personal Protective Equipment.

17. (a) Explain HAZCHEM.

Or

(b) Explain the administrative controls in the Industrial Ergonomics.

18. (a) Explain about HVAC.

Or

(b) Explain about BEI.

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21514

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

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. Define Noise.
2. Define PPE.
3. Define Excavation.
4. What is blasting?
5. What is Demolition?
6. What are the Forklift hazards?
7. What are the types of Scaffolding?
8. Write the limitations in the use of Ladders.
9. What is static load?
10. Write the treatment for electric shock.

Part B

(5 × 5 = 25)

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

11. (a) Explain Housekeeping in detail.

Or

- (b) Write short notes on respiratory protection.

12. (a) Discuss the general safety measures in electrical supply and installation.

Or

- (b) Explain the precautions during the usage of Explosives.

13. (a) Write short notes on Vehicle and Drivers.

Or

- (b) Explain the inspection and maintenance of crane.

14. (a) Write short notes on:

(i) Guard rails

(ii) Toe board

Or

- (b) Write short notes on electrical cables and wires.

15. (a) Write the safety precautions for using power driven construction tools and machinery.

Or

- (b) Write short notes on portable electrical tools and equipments.

Part C

(3 × 10 = 30)

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

16. (a) Explain respiratory protective PPE.

Or

- (b) Explain salient features of BOCW act 1996.

17. (a) Write short notes on:

(i) Lifting tools and tackles

(ii) Slings and Ropes.

Or

- (b) Write short notes on:

(i) Safe use of Ladders

(ii) Care of Ladders and step Ladders

18. (a) Explain the causes of accidents and control measures in circular saw.

Or

- (b) Explain the hazards and control measures of welding, grinding and gas cutting.

C-5494

Sub. Code

21515

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

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. What is 'Risk matrix'?
2. Differentiate risk and hazard.
3. Brief PHA.
4. Why risk analysis is made?
5. What do you mean by 'Qualitative'?
6. Specify the use of Check list analysis'.
7. How risk analyses differ from SIL?
8. Expand HAZOP.
9. List out the 'Safety Instrumentation Systems'.
10. Why third party inspection is needed?

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Write short notes on 'safety instrumentation'.

Or

- (b) Write about ALARP.

12. (a) Why hazard analysis is required?

Or

- (b) Discuss on Risk assessment and risk estimation.

13. (a) Describe 'Preliminary hazard analysis'.

Or

- (b) Give an example for 'Fault Tree Analysis'.

14. (a) Brief SIL determination techniques.

Or

- (b) Explain FMEA.

15. (a) Stress how design and engineering help to improve safety.

Or

- (b) Elaborate explosion protection.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Specify the purpose of hazard and risk analysis.

Or

- (b) Discuss functional safety in detail.

17. (a) Describe human reliability analysis.

Or

(b) Brief the plant hazard selection technique.

18. (a) Describe HAZOP methodology.

Or

(b) State the significance of reporting and follow up.

C-5495

Sub. Code

21516

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

Non-Semester

Fire and Industrial Safety Management

EHS LEGISLATION

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. What is EHS?
2. When Factories act is enacted?
3. List out the various acts.
4. Brief NOC.
5. State the two Government bodies to control pollution.
6. What do you mean by 'Hazard'?
7. Give any four hazardous chemicals.
8. What SMPV stands for?
9. How boiler is differ from pressure vessel?
10. What is HASAWA?

Part B

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Who are Statutory authorities and their responsibilities?

Or

- (b) State the functions of an inspecting staff.

12. (a) Write about Environment act.

Or

- (b) List out the main features of Noise pollution rules.

13. (a) Describe the responsibilities of Occupier as per Hazardous chemical rules 1989.

Or

- (b) Define the terms Manufacturer, Storage and Chemicals.

14. (a) Write about Indian Boiler act.

Or

- (b) Discuss about Electricity act and rules.

15. (a) Write short notes on OSHA.

Or

- (b) Elaborate ISO 14000.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Describe Factories act.

Or

(b) Stress the features of special provisions, penalties and procedure as per factories act.

17. (a) Discuss about Batteries (Management and Handling) rule 2001.

Or

(b) Discuss the Water act in detail.

18. (a) Describe duties of authorities in detail.

Or

(b) Write about petroleum and Gas cylinder rules.

C-3072

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21517

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

Non-Semester

Fire And 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. What is the need for warehouse management?
2. Expand TREM.
3. Define Stacking.
4. Define Emergency planning.
5. What are warning symbols?
6. What are the objectives of warehouse?
7. Define manual handling.
8. Define Load.
9. Expand EOT.
10. Define Explosion.

Part B

(5 × 5 = 25)

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

11. (a) Write short notes on evolution of warehousing.

Or

- (b) Discuss the functions of warehouses.

12. (a) Write short notes on selection of drivers.

Or

- (b) Write the checklist for decanting procedure.

13. (a) Discuss the precautions to be followed in transport.

Or

- (b) Write short notes on Forklift safety.

14. (a) Write short notes on handling and storage of compressed gas cylinder.

Or

- (b) Discuss the safety precautions in EOT crane.

15. (a) Write short notes on detection and alarm system.

Or

- (b) Write short notes on portable fire extinguishers.

Part C

(3 × 10 = 30)

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

16. (a) Explain the types of warehouses and significance of WMS.

Or

- (b) Explain maximum and minimum inventory control systems.

17. (a) Explain emergency planning.

Or

(b) Explain the road transport act and rules.

18. (a) Explain sprinkler and deluge systems.

Or

(b) Explain the salient features of fire, explosion and toxicity index.

C-5496

Sub. Code

21518

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

Non-Semester

Fire and Industrial Safety Management

SAFETY INSPECTION AND AUDIT

(2019 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. State the purpose of Inspection.
2. List out the hazards in work place.
3. Give few types of Audit.
4. Draw the methodology of Safety Audit.
5. Brief ISO.
6. What is your Environmental policy?
7. Expand OHSAS.
8. Stress the benefits of Certification.
9. What is 'OS and H' system?
10. Write the contents in Annexure A.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) What are the objective of Safety Inspection?

Or

- (b) State the significance of Safety Inspection.

12. (a) Describe the qualification and responsibility of an Auditor.

Or

- (b) Point out the safety Audit objectives.

13. (a) Write about the specifications and objectives of ISO 14001.

Or

- (b) Stress the importance of ISO 14000 to the management.

14. (a) Explain the development of OHSAS standard.

Or

- (b) List out the guidelines to implement OHSAS 18001.

15. (a) Give details about the objectives and responsibilities of OS and H audit.

Or

- (b) Brief the elements of OS and H system.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Brief the Workplace Inspection.

Or

(b) Why safety inspection is important?

17. (a) Describe the methodology of Safety Audit.

Or

(b) Write short notes on pre safety activities and on site activities.

18. (a) What is OHSAS 18001 and ISO 45001?

Or

(b) Explain the certificate procedures and certification benefits.

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Sub. Code

21512

**CERTIFICATE COURSE EXAMINATION,
NOVEMBER 2021**

Non-Semester

Fire and Industrial Safety Management

**FIRE PREVENTION CONTROL AND ELEMENTARY
FIRST AID**

(2016 onwards)

Duration : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Fire Load.
2. What is the standard height of Hydrant post?
3. What are the types of storage in tank form?
4. Define CNG.
5. What is High rise building?
6. What are the common causes of fire in chemical laboratories?
7. What is TREMCARD?
8. Define HAZCHEM code.
9. What are the three main components of an inverter?
10. What are the common causes of Electrical Fire?

Part B

(5 × 5 = 25)

Answer **all** questions.

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

11. (a) Explain the classification of fire with example.

Or

- (b) Write short notes on Water monitors.

12. (a) Write the properties of LPG.

Or

- (b) Explain Fire Protection system design criteria.

13. (a) Explain the prevention of fire in Educational Institution.

Or

- (b) Write the safety measures to be taken to reduce Fire risk by Tenants.

14. (a) Write the common causes of fire and explosion in transportation.

Or

- (b) Write short notes fire safety measures in motor vehicles.

15. (a) Explain the hazards in Inverter.

Or

- (b) Write short notes on vulnerable material.

Part C

(3 × 10 = 30)

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

16. (a) Explain Fire Escape Plan.

Or

- (b) Explain safety in Domestic Industrial Cylinder.

17. (a) Explain Fire Safety measures in small scale industries.

Or

- (b) Explain Fire Safety measures in Hazardous Goods.

18. (a) Explain Electrical safety with RCCB.

Or

- (b) Explain Do's and Don'ts for safe handling and use of Inverter.
