C–7266

Sub. Code
50312

DIPLOMA EXAMINATION, NOVEMBER 2025

First Semester

Fire and Industrial Safety (3 Year)

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is NOT a function of an occupational health service?

   (a) Conducting pre-employment health assessments

   (b) Providing first aid and emergency treatment

   (c) Offering financial advice to employees

   (d) Monitoring workplace hazards

2. What is the primary cause of silicosis?

   (a) Exposure to asbestos fibers

   (b) Exposure to silica dust

   (c) Exposure to coal dust

   (d) Exposure to lead fumes

3. Which type of hazard is associated with exposure to loud noises?

(a) Physical hazard (b) Chemical hazard

(c) Biological hazard (d) Ergonomic hazard

4. What is the purpose of a personal monitoring device for radiation?

(a) To measure the level of radiation in the environment

(b) To track the amount of radiation exposure an individual receives

(c) To protect workers from radiation

(d) To clean up radioactive spills

5. Which of the following is a symptom of carbon monoxide poisoning?

(a) Skin rash (b) Headache

(c) Nausea (d) All of the above

6. What is the first step in managing a person who has fainted?

(a) Check for a pulse

(b) Administer CPR

(c) Lay the person down and elevate their legs

(d) Splash water on their face

7. Which type of burn is caused by exposure to a corrosive chemical?

(a) Thermal burn

(b) Electrical bum

(c) Chemical burn

(d) Radiation burn

8. What is the purpose of immobilizing a fracture?

(a) To reduce pain

(b) To prevent further damage

(c) To promote healing

(d) All of the above

9. Which of the following is a psychological hazard in the workplace?

(a) Stress

(b) Bullying

(c) Burnout

(d) All of the above

10. What is the purpose of an Employee Assistance Program (EAP)?

(a) To provide financial assistance to employees

(b) To offer confidential counseling and support services

(c) To arrange social events for employees

(d) To conduct performance appraisals

Part B (5 × 5 = 25)

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

11. (a) Explain the concept of "threshold limit values" (TLVs) and their role in protecting worker health.

Or

(b) Describe the different types of hazards associated with laser radiation and the preventive measures.

12. (a) Discuss the health effects of noise exposure and the methods for controlling noise in the workplace.

Or

(b) Explain the purpose and importance of acclimatization for workers exposed to hot environments.

13. (a) Describe the basic anatomical terms used to describe different parts of the body.

Or

(b) Explain the structure and functions of the musculoskeletal system.

14. (a) Discuss the causes, signs, and symptoms of shock.

Or

(b) Explain the first aid management of different types of eye injuries.

15. (a) Describe the role of organizational behaviour in understanding and managing workplace safety.

Or

(b) Explain the concept of "behaviour-based safety" and its application in preventing accidents.

Part C (5 × 8 = 40)

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

16. (a) Discuss the toxic effects of lead and manganese, and the preventive measures for these heavy metals.

Or

(b) Explain the different types of gas poisoning, their effects, and preventive measures.

17. (a) Describe the methods for measuring and evaluating vibration exposure in the workplace.

Or

(b) Discuss the purpose and design considerations for lighting installations in different work environments.

18. (a) Explain the recognition and management of fainting, including first aid and aftercare.

Or

(b) Discuss the management of diabetes-related emergencies in the workplace.

19. (a) Explain the classification of fractures and the principles of immobilization.

Or

(b) Discuss the different types of poisoning and their first aid management.

20. (a) Discuss the General Adaptation Syndrome and its relationship to workplace stress.

Or

(b) Explain the role of psychological counselling and Employee Assistance Programs (EAPs) in supporting employee well-being.

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C–7267	Sub. Code 50321

DIPLOMA EXAMINATION, NOVEMBER 2025

Second Semester

Fire and Industrial Safety (3 Years)

SAFETY ON ELECTRICAL AND CHEMICAL HAZARDS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. The law relating voltage, current, and resistance in an electrical circuit is _____

   (a) Kirchhoff's law (b) Newton's

   (c) Ohm's Law (d) Power Law

2. A discharge of electricity through the air between conductors is known as _____

   (a) Electric Arc (b) Grounded

   (c) Light (d) Striking

3. In case of electrical burns, _____ should be administered immediately.

   (a) Insulation (b) CPR

   (c) Ignore (d) Provide water

4. A component that stores energy in a magnetic field is called an _____

   (a) Container (b) Voltage box

   (c) Inductor (d) Ground

5. Devices designed to interrupt the flow of electricity in an overloaded or short-circuited system are known as _____

(a) Circuit breaker (b) Insider

(c) Inductor (d) None of them

6. The process of converting atoms or molecules into ions is called _____

(a) Radiation (b) Ionization

(c) Balance (d) None of them

7. The degree to which a substance can harm humans or animals is referred to as _____

(a) Dose (b) Toxicity

(c) Flammable (d) Exposure

8. Materials that can easily catch fire are described as _____

(a) Flammable (b) Inflammable

(c) Both (a) and (b) (d) None

9. The system for communicating the hazards of chemicals in Canada is called _____

(a) ISO (b) IMA

(c) WHMIS (d) BIS

10. The maximum amount of a chemical to which a worker can be exposed without adverse effects is called the _____

(a) Exposure limit (b) Non-classify

(c) Roots (d) None of them

Part B (5 × 5 = 25)

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

11. (a) Mention the types of electrical faults.

Or

(b) Shortly, discuss about CPR.

12. (a) Distinguish primary and secondary hazards.

Or

(b) Explore the hazards due to overcurrent and its control methods.

13. (a) What is the safe distance from Power lines? What distance is safe for 11 kV and 132 kV power lines?

Or

(b) Equipment Grounding — discuss shortly.

14. (a) Write short notes on biohazards.

Or

(b) Mention the methods of atmospheric monitoring and discuss the importance of it.

15. (a) List the PPE for chemicals and mention the significance of it.

Or

(b) Briefly discuss the hierarchy of risk controls.

Part C (5 × 8 = 40)

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

16. (a) How electrical signals are affect the heart and describe the prevention methods?

Or

(b) State and explain the Indian electricity rules.

17. (a) Define insulation and explain in detail about the classes of insulation.

Or

(b) Narrate the need for and importance of Earthing.

18. (a) Explain in detail about earthing standards.

Or

(b) Define PPE and briefly discuss about Personal Protective Equipment.

19. (a) Describe in detail about LC50 & LD50 flammable limits.

Or

(b) Explore the methods of transportation of hazardous chemicals.

20. (a) Classify hazardous chemicals and discuss them briefly about it.

Or

(b) What are all the design considerations that need to be followed while designing chemical storage tanks?

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C–7268

Sub. Code
50322

DIPLOMA EXAMINATION, NOVEMBER 2025

Second Semester

Fire and Industrial Safety (3 years)

FOOD SAFETY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What is a chemical hazard that can contaminate food?

   (a) Pesticide (b) Bacteria

   (c) (a) and (b) (d) None

2. Which bacteria is commonly associated with foodborne illnesses?

   (a) Lactobacillus (b) Bifidobacterium

   (c) Streptococcus (d) Salmonella

3. What is crucial in handling food to ensure safety?

   (a) Proper wash (b) Packing

   (c) Labelling (d) All of them

4. Why is pest control important in the food industry?

   (a) Prevent insects (b) Increase price

   (c) Efficiency (d) Production

5. What is Good Agricultural Practice (GAP)?

(a) Good farming (b) Correct

(c) Effective yield (d) All of them

6. _____ Analysis and Critical Control Points (HACCP)

(a) Hazard (b) Happy

(c) Hotel (d) Host

7. Which agency is responsible for food and drug regulation in the USA?

(a) FDA (b) FASA

(c) NASA (d) PESR

8. Food safety management – ISO _____

(a) 25000 (b) 22000

(c) 33000 (d) 8000

9. What is a food safety audit?

(a) Evaluation (b) Inspection

(c) Testing (d) All of them

10. What does LD50 represent in toxicology?

(a) 50, Low Dose (b) 50, Less D

(c) 50, Le (d) 50% lethal dose

Part B (5 × 5 = 25)

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

11. (a) Narrate the types of quality characteristics of food.

Or

(b) Identify the methods adopted to determine the quality of the food industry.

12. (a) Explore the sources of contamination.

Or

(b) What are all the things that need to be followed in food services?

13. (a) List the current challenges in food safety.

Or

(b) Write short notes on GMP.

14. (a) Shortly discuss about FSSAI.

Or

(b) Abbreviate the following :

(i) FDA

(ii) BRC

(iii) WHO

(iv) FAO

(v) USDA

15. (a) Name the 5C's in food safety and discuss briefly about it.

Or

(b) Describe shortly about food safety auditing.

Part C (5 × 8 = 40)

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

16. (a) How do we measure the quality of meat? And discuss the quality standards for meat.

Or

(b) Briefly discuss the significant quality characteristics of food in general.

17. (a) Describe in detail about a person's hygiene.

Or

(b) Explain sanitation methods with one example.

18. (a) State the principles of food safety and briefly discuss the importance of it.

Or

(b) Define GHP and narrate the significant good hygiene practices.

19. (a) Explore the need for and importance of certification in the food industry.

Or

(b) Describe the following :

(i) ISO 9000

(ii) ISO 22000

20. (a) Define food surveillance and explore its objectives and importance of it.

Or

(b) Elaborately discuss the importance of packaging methods with labelling in the food industry.

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C–7269

Sub. Code
50331

DIPLOMA EXAMINATION, NOVEMBER 2025

Third Semester

Fire and Industrial Safety (3 years)

CONSTRUCTION SAFETY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What is a major problem impeding safety in the construction industry?

   (a) Lack of skilled labour

   (b) Inadequate safety training

   (c) Poor communication and coordination

   (d) All of the above

2. Which of the following is a common cause of fatal accidents in construction?

   (a) Falls from heights

   (b) Electrocution

   (c) Being struck by objects

   (d) All of the above

3. What is the purpose of a "permit to work" system?

(a) To control access to hazardous areas

(b) To track employee attendance

(c) To manage payroll

(d) To monitor environmental emissions

4. Which type of excavation is most prone to collapse?

(a) Shallow trenches

(b) Deep excavations with unsupported sides

(c) Basements with proper shoring

(d) Shafts with reinforced walls

5. What is a key safety feature of scaffolding?

(a) Stable base and proper bracing

(b) Use of damaged or defective materials

(c) Overloading the scaffold

(d) Lack of guardrails

6. Falsework is a temporary structure used to:

(a) Support workers during construction

(b) Decorate the construction site

(c) Store construction materials

(d) Provide shade from the sun

7. What is a confined space in construction?

(a) Any enclosed area

(b) An area with limited access and egress that may contain hazardous atmospheres

(c) A small office cubicle

(d) A storage room

8. Which of the following is a hazard associated with working at heights?

(a) Falls from ladders and scaffolds

(b) Falling objects

(c) Unstable work surfaces

(d) All of the above

9. What is the purpose of a safety net in fall protection?

(a) To prevent falls

(b) To arrest falls and minimize injury

(c) To provide access to work areas

(d) To catch falling tools

10. Which type of crane is typically used for high-rise building construction?

(a) Mobile crane

(b) Tower crane

(c) Overhead crane

(d) Gantry crane

Part B (5 × 5 = 25)

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

11. (a) Discuss the human factors that contribute to accidents in the construction industry.

Or

(b) Explain the importance of contractual clauses and pre-construction meetings in promoting safety.

12. (a) Describe the hazards associated with excavation work and the safety precautions for preventing collapses.

Or

(b) Explain the different types of scaffolding and the causes of scaffolding-related accidents.

13. (a) Discuss the OSHA requirements for fall protection in construction.

Or

(b) Explain the different fall protection systems with suitable sketches.

14. (a) Describe the selection, operation and inspection procedures for hoisting cranes.

Or

(b) Explain the safety precautions for using concrete mixers and vibrators.

15. (a) Discuss the key factors to consider for safe demolition work.

Or

(b) Explain the health hazards associated with demolition work.

Part C

(5 × 8 = 40)

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

16. (a) Discuss the types and causes of accidents related to various construction activities.

Or

(b) Explain the role of quality assurance in construction safety and the importance of compensation for injured workers.

17. (a) Describe the hazards and safety precautions for working in confined spaces.

Or

(b) Discuss the safety considerations for the construction of high-rise buildings.

18. (a) Explain the safe use of ladders and the requirements for safe work platforms.

Or

(b) Discuss the different safety monitoring systems used for fall prevention.

19. (a) Describe the operation and safety precautions for using earth-moving equipment.

Or

(b) Explain the safety procedures for using portable electrical tools and welding machines in construction.

20. (a) Discuss the methods for demolition work, including manual, mechanical and using explosives.

Or

(b) Explain the fire hazards in demolition work and the preventive measures to mitigate these hazards.

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C–7270	Sub. Code 50332

DIPLOMA EXAMINATION, NOVEMBER 2025.

Third Semester

Fire and Industrial Safety (3 Years)

ACCIDENT INVESTIGATION AND REPORTING

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is a key purpose of accident reporting?
   (a) Assigning blame
   (b) Identifying hazards and preventing future accidents
   (c) Punishing employees
   (d) Increasing paperwork

2. An accident that results in lost time for the injured worker is considered:
   (a) Non-reportable (b) Reportable
   (c) Minor (d) Insignificant

3. According to Heinrich's Domino Theory, the last domino to fall represents:
   (a) The accident itself
   (b) The injury
   (c) The unsafe act
   (d) The unsafe condition

4. Bird's Triangle illustrates the relationship between:
   (a) Fatalities, major injuries, and near misses
   (b) Unsafe acts, unsafe conditions, and accidents
   (c) Management, supervisors, and workers
   (d) Planning, organizing, and controlling

5. Which of the following is the most effective risk control measure?
   (a) Elimination
   (b) Substitution
   (c) Engineering control
   (d) PPE

6. Accident investigation primarily aims to:
   (a) Determine the cause of the accident
   (b) Assign blame to individuals
   (c) Calculate financial losses
   (d) Prepare legal documents

7. A Fishbone Diagram is used for:
   (a) Root cause analysis
   (b) Risk assessment
   (c) Job safety analysis
   (d) Emergency planning

8. Which of the following is used to calculate accident frequency rate?
   (a) Number of fatalities
   (b) Number of lost time injuries per million man-hours worked
   (c) Total days lost due to injuries
   (d) Cost of accidents

9. Severity rate measures:
   (a) Number of accidents
   (b) Number of fatalities
   (c) Days lost due to injuries
   (d) Cost of accidents

10. Which of the following is considered a disabling injury?
    (a) A minor cut requiring first aid
    (b) An injury resulting in time off work
    (c) A near miss incident
    (d) Property damage only

Part B (5 × 5 = 25)

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

11. (a) Differentiate between reportable and non-reportable accidents.

Or

(b) Explain the accident reporting requirements as per the Factories Act 1948.

12. (a) Describe Heinrich's Domino Theory and its limitations.

Or

(b) Explain the Human Factors Theory of accident causation.

13. (a) Discuss the hierarchy of risk control and provide examples of each level.

Or

(b) Explain the difference between preventive and control measures.

14. (a) Outline the process of accident investigation.

Or

(b) Describe the Root Cause Analysis technique.

15. (a) Explain the computation of accident frequency and severity rates.

Or

(b) Classify industrial accidents based on their severity.

Part C (5 × 8 = 40)

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

16. (a) Analyse the various causes of accidents in the workplace.

Or

(b) Discuss the importance of maintaining accident records and their use in accident prevention.

17. (a) Compare and contrast the different theories of accident causation.

Or

(b) Explain the Multiple Causation Theory and its relevance in accident investigation.

18. (a) Evaluate the effectiveness of different risk control measures in preventing accidents.

Or

(b) Discuss the role of administrative controls and PPE in a comprehensive safety program.

19. (a) Discuss the different methods of accident investigation and their advantages and disadvantages.

Or

(b) Explain the use of the Fishbone Diagram and SCAT technique in accident analysis.

20. (a) Explain the different types of industrial injuries and their impact on workers and organizations.

Or

(b) Discuss the importance of assessing work injury costs and their use in justifying safety investments.

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C–7271

Sub. Code
50341

DIPLOMA EXAMINATION, NOVEMBER 2025

Fourth Semester

Fire and Industrial Safety (3 Years)

HAZARD IDENTIFICATION RISK ASSESSMENT AND RISK CONTROL

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. _____ is the likelihood of a hazard causing harm.

   (a) Risk (b) Safety

   (c) Harmless (d) Harmony

2. _____ alerts workers to potential dangers in the workplace.

   (a) Ring (b) Safety Warning

   (c) Light (d) Flag

3. _____ involves evaluating the potential impact of identified risks.

   (a) Task finding

   (b) Risk Analysis

   (c) Tress analysis

   (d) Examinations

4. The goal of _____ analysis is to find the underlying reasons for an accident.

(a) Tree (b) Root cause

(c) Blank (d) Ordinary

5. _____ analysis involves examining specific job tasks to identify potential hazards

(a) DECODE (b) FIA

(c) EIA (d) Job Safety

6. _____ uses a graphical representation to analyze the causes of system failures.

(a) FTA (b) DTA

(c) DSC (d) TYA

7. _____ identifies potential failure modes and their impact on system performance.

(a) FMEA (b) UTA

(c) PILOT (d) HAT

8. The _____ number helps prioritize risks based on their severity occurrence, and detection.

(a) Maker (b) Task critical

(c) Risk priority (d) Safety act

9. _____ stands for Hazard Identification and Risk Assessment.

(a) HRA (b) HIRA

(c) AISH (d) FTA

10. The _____ disaster was a chemical plant accident that resulted in significant fatalities and environmental damage.

(a) Mexico (b) Bhopal

(c) Feyzin (d) All of the above

Part B (5 × 5 = 25)

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

11. (a) Define Risk and discuss shortly about risk register.

Or

(b) Write short notes on human error analysis.

12. (a) Name and explain the three types of risk analysis.

Or

(b) Mention the steps involved in root cause analysis.

13. (a) What are the 4P's of safety management? Discuss shortly.

Or

(b) Shortly discuss the Risk Priority Number.

14. (a) State the objectives of HIRA.

Or

(b) Define Risk and Discuss about Risk Matrix.

15. (a) Name the Risk assessment techniques and briefly discuss the risk credibility.

Or

(b) What happened in the Pasadena disaster?

Part C

(5 × 8 = 40)

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

16. (a) Elaborately discuss the safety warning systems.

Or

(b) A suitable example will be provided, and the hazardous event and control measures will be briefly discussed.

17. (a) Briefly discuss about risk analysis process.

Or

(b) Mention the component of risk identification and discuss the stages briefly.

18. (a) Explain in detail about FTA.

Or

(b) Define FMEA. and Explore the FMEA procedure with necessary data.

19. (a) Explore the steps involved in hazard identification and risk assessment.

Or

(b) Elaborately discuss about quantitative and qualitative risk assessment.

20. (a) Discuss the disaster in Mexico with the necessary data.

Or

(b) Explain the Port Hudson disaster.

C–7274

Sub. Code
50342

DIPLOMA EXAMINATION, NOVEMBER 2025

Fourth Semester

Fire and Industrial Safety –3 Years

EHS LAW

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Tamil Nadu Factories rules.
   (a) 2000 (b) 1984
   (c) 1950 (d) 2001

2. Safety officer rule under the TN Factory Act implemented on
   (a) 2001 (b) 2022
   (c) 2005 (d) 1994

3. Environmental act
   (a) 1986 (b) 1955
   (c) 1966 (d) 1975

4. The noise pollution rules
   (a) 1952 (b) 2000
   (c) 2001 (d) 2005

5. The batteries-management and handling rule implemented on

(a) 2011 (b) 1995

(c) 1954 (d) 2001

6. What rule was introduced in 2016?

(a) Hazardous handling

(b) Motors

(c) Vehicle

(d) None of them

7. How to record the incidents and the formative assessment about protection and precaution in the factory

(a) Task (b) Monitor

(c) Safety reports (d) Activity

8. Indian boiler Act

(a) 2000 (b) 1988

(c) 2007 (d) 2010

9. The mine and minerals amendment act

(a) 2004 (b) 2015

(c) 2021 (d) 1988

10. Explosive act

(a) 1884 (b) 1988

(c) 2005 (d) 2000

Part B (5 × 5 = 25)

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

11. (a) Define the term "statutory authorities. List the welfare under the Factories Act 1948.

Or

(b) State the safety officer rule and mention the quality of the safety officer.

12. (a) Identify the minimizing methods for noise pollution.

Or

(b) Shortly, discuss about penalties.

13. (a) List the duties of local authorities.

Or

(b) Write short notes on the management of hazardous Waste.

14. (a) Describe shortly – SMPV.

Or

(b) State and explain the E-waste (management) rules 2016.

15. (a) Narrate legislation and name the three public health acts.

Or

(b) Criticize - NFPA.

Part C (5 × 8 = 40)

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

16. (a) Briefly discuss about the employment of young persons.

Or

(b) Elaborately discuss about the updated amendment of factory rules in Tamilnadu.

17. (a) Describe in detail about the control methods for environmental pollution.

Or

(b) Mention the preventive measures and control methods of air pollution.

18. (a) Name the highly Hazardous and toxic chemicals. Explain any one major hazard with suitable d=information.

Or

(b) Briefly discuss about major accident hazard control rules.

19. (a) Explain the Indian Boiler Act 2007 in detail with relevant information.

Or

(b) What is the Pesticides Act? Briefly discuss it with the necessary data.

20. (a) Elaborately discuss about ISO4001.

Or

(b) Explain the need for and importance of ANSI.

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C–7275

Sub. Code
50351

DIPLOMA EXAMINATION, NOVEMBER 2025.

Fifth Semester

Fire and Industrial Safety (3 Years)

SAFETY INSPECTION AND AUDIT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Workplace inspections should be conducted:

   (a) Only when there is an accident

   (b) Regularly and routinely

   (c) By management only

   (d) To punish workers

2. Which of the following is a benefit of workplace inspections?

   (a) Identifying potential hazards

   (b) Improving employee morale

   (c) Reducing insurance premiums

   (d) All of the above

3. A safety audit is:

(a) A superficial check of the workplace

(b) A comprehensive examination of safety management systems

(c) Conducted only by external agencies

(d) The same as a safety inspection

4. Which type of audit focuses on assessing the effectiveness of an organization's safety management system?

(a) Compliance audit

(b) System audit

(c) Management audit

(d) Financial audit

5. ISO 45001 provides a framework for:

(a) Managing environmental impacts

(b) Implementing quality control procedures

(c) Managing occupational health and safety risks

(d) Conducting financial audits

6. The "Plan-Do-Check-Act" (PDCA) cycle is a model for:

(a) Incident investigation

(b) Risk assessment

(c) Continuous improvement

(d) Emergency response

7. Which of the following is a key principle of ISO 14001?

(a) Pollution prevention

(b) Employee participation

(c) Continual improvement

(d) All of the above

8. Life Cycle Assessment (LCA) is a technique used to evaluate the environmental impact of:

(a) A product's entire life cycle

(b) A single manufacturing process

(c) Waste disposal methods

(d) Employee transportation

9. What is the purpose of eco-labeling?

(a) To mislead consumers

(b) To increase product costs

(c) To provide information about the environmental impact of products

(d) To promote international trade

10. An Environmental Impact Assessment (EIA) is conducted to:

(a) Assess the financial viability of a project

(b) identify and assess the potential environmental impacts of a project

(c) Evaluate employee satisfaction

(d) Measure the carbon footprint of a company

Part B (5 × 5 = 25)

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

11. (a) Explain the purpose and scope of workplace inspections.

Or

(b) Discuss the importance of follow-up and monitoring after a workplace inspection.

12. (a) Describe the key elements of a safety auditandreporting.

Or

(b) Explain the benefits of conducting regular safety audits for an organization.

13. (a) Discuss the role of leadership and worker participation in developingan OHSMS.

Or

(b) Explain the importance of an Occupational Health and Safety (OH and S) policy.

14. (a) Describe the general guidelines for implementing an EMS according to ISO 14001-based EMS.

Or

(b) Explain the different levels of documentation required for an ISO 14001-based EMS.

15. (a) Discuss the stages involved in conducting a Life Cycle Assessment (LCA).

Or

(b) Explain the concept of eco-labeling and its role in promoting environmentally friendly products.

Part C (5 × 8 = 40)

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

16. (a) Discuss the importance of workplace inspections and promoting a safe work environment.

Or

(b) Explain the process of conducting a workplace inspection, including planning, execution, and follow-up.

17. (a) Describe the different types of safety audits and the methodologies used to conduct them.

Or

(b) Discuss the role of safety audits in evaluating the effectiveness of an organization's safety management system.

18. (a) Explain the key clauses of ISO 45001, including leadership and worker participation.

Or

(b) Discuss the benefits of implementing an OHSMS based on ISO 45001.

19. (a) Explain the key elements of an Environmental Management Systemaccording to ISO l4001.

Or

(b) Discuss the process of implementing an EMS based on ISO 14001.

20. (a) Describe the purpose and benefits of an Environmental Impact Assessment (EIA).

Or

(b) Discuss the different types of EIA and the content of an Environmental Impact Statement (EIS).

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C–7276	Sub. Code 50352

DIPLOMA EXAMINATION, NOVEMBER 2025.

Fifth Semester

Fire and Industrial Safety [3 Years]

SAFETY IN OIL AND GAS INDUSTRIES

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is an example of a downstream activity in the oil and gas industry?

   (a) Exploration (b) Refining

   (c) Transportation (d) Drilling

2. A product hazard classification helps to:

   (a) Determine safe handling procedures

   (b) Increase production rates

   (c) Reduce costs

   (d) Improve marketing strategies

3. Human error in the workplace is often caused by:

   (a) Fatigue

   (b) Stress

   (c) Inadequate training

   (d) All of the above

4. A "near miss" incident is:

(a) An accident that results in injury

(b) An event where no injury occurs, but could have

(c) A planned safety inspection

(d) A type of safety training

5. Which of the following is a common safety analysis method?

(a) HAZOP (b) SWOT

(c) PESTLE (d) Porter's Five Forces

6. A toolbox talk is:

(a) A short safety meeting

(b) A type of training program

(c) A risk assessment technique

(d) An accident investigation method

7. Which of the following is a potential consequence of not following safety procedures offshore?

(a) Environmental damage

(b) Loss of life

(c) Financial losses

(d) All of the above

8. Which of the following is a human factor that affects safety?

(a) Attitude (b) Skill

(c) Fatigue (d) All of the above

9. A confined space is characterized by:

(a) Limited means of entry and exit

(b) Unfavorable natural ventilation

(c) Not designed for continuous human occupancy

(d) All of the above

10. Dehydration can be a hazard in the oil and gas industry due to:
    (a) Extreme temperatures
    (b) Strenuous physical activity
    (c) Lack of access to water
    (d) All of the above

Part B (5 × 5 = 25)

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

11. (a) Explain the importance of safety management principles in the oil and gas industry.

Or

(b) Discuss the common causes of work injuries in the oil and gas sector.

12. (a) Describe the Failure Mode and Effects Analysis (FMEA) methodology.

Or

(b) Explain the use of Fault Tree Analysis in risk assessment.

13. (a) Discuss the challenges and considerations for offshore safety.

Or

(b) Explain the accident reporting procedures in the offshore industry.

14. (a) Describe the organizational factors that can influence safety performance in the oil and gas industry.

Or

(b) Explain the common hazards associated with working in the oil and gas industry.

15. (a) Discuss the hazards associated with lifting activities and the control measures to be implemented.

Or

(b) Explain the precautions to be taken during the storage of flammable liquids.

Part C (5 × 8 = 40)

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

16. (a) Analyse the differences between onshore and offshore safety practices in the oil and gas industry.

Or

(b) Discuss the various theories of accident causation and their application in the oil and gas context.

17. (a) Evaluate the effectiveness of different safety training programs in improving safety awareness and behaviour.

Or

(b) Explain the importance of daily observation reports in identifying and mitigating potential hazards.

18. (a) Discuss the role of regulatory bodies in ensuring offshore safety.

Or

(b) Analyse the causes and lessons learned from the Piper Alpha disaster.

19. (a) Discuss the individual factors that contribute to unsafe acts and how they can be addressed.

Or

(b) Recommend strategies for reducing fatal accidents in the oil and gas industry.

20. (a) Explain the requirements for ventilation and gas testing in confined spaces.

Or

(b) Discuss the sources of offshore oil and gas industry accident data and how this data can be used to improve safety performance.

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