

**C-2501**

**Sub. Code**

**70111**

**M.Sc. DEGREE EXAMINATION, APRIL 2024.**

**First Semester**

**Industrial Safety and Hygiene**

**FIRE DESIGN AND INSTALLATIONS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the questions.

1. What is the primary purpose of a fire sprinkler system in a building?
  - (a) To provide water for drinking
  - (b) To water indoor plants
  - (c) To control and extinguish fires
  - (d) To cool down the building
  
2. What is the fire tetrahedron?
  - (a) A four-sided fire alarm
  - (b) A pyramid-shaped building that houses firefighters
  - (c) A geometric shape used in fire safety planning
  - (d) The four elements required for a fire : fuel, heat, oxygen, and a chemical chain reaction

3. When selecting a fire extinguisher, which factor is crucial in determining the appropriate type of extinguisher to use?
  - (a) The color of the extinguisher
  - (b) The size of the extinguisher
  - (c) The type of fire it will be used to extinguish
  - (d) The location of the fire extinguisher
  
4. What does the "PASS" technique stand for when using a fire extinguisher?
  - (a) Pull, Aim, Squeeze, Stop
  - (b) Pull, Aim, Shake, Sweep
  - (c) Prevent, Activate, Sound, Shout
  - (d) Push, Activate, Stop, Secure
  
5. Which type of fire alarm system is best suited for homes and small businesses?
  - (a) Addressable fire alarm system
  - (b) Conventional fire alarm system
  - (c) Wireless fire alarm system
  - (d) Two-wire fire alarm system
  
6. What is the primary purpose of a fire detection and alarm system?
  - (a) To extinguish fires
  - (b) To alert occupants to a fire
  - (c) To provide lighting during a fire
  - (d) To control the spread of fire

7. What is the purpose of an internal fire hydrant system in a building?
  - (a) To supply drinking water
  - (b) To provide water for landscaping
  - (c) To ensure a water supply for firefighters during a fire emergency
  - (d) To fill swimming pools
  
8. What is the color of a standard fire hydrant used for municipal firefighting operations?
  - (a) Yellow                      (b) Blue
  - (c) Red                          (d) Green
  
9. What is the first step in ensuring safety during a demolition project?
  - (a) Clearing the area of debris and materials
  - (b) Conducting a thorough hazard assessment
  - (c) Starting the demolition immediately
  - (d) Notifying nearby residents
  
10. Which of the following statements about fire exit routes is true?
  - (a) They are only needed in large industrial facilities
  - (b) They should be well-lit and clearly marked
  - (c) They should be kept secret to prevent unauthorized use
  - (d) They are optional in residential buildings

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain the significance of flash points and fire points in fire risk assessment and prevention.

Or

- (b) Define BLEVE and its prevention strategies in industrial settings for ensuring fire safety.

12. (a) How is the location for installing fire extinguishers selected to ensure accessibility and effectiveness during emergencies?

Or

- (b) Discuss the importance of regular maintenance in ensuring the operational efficiency of fire extinguishers.

13. (a) Explain the concept of the detection zone and its role in effective monitoring of specific areas for potential fire risks.

Or

- (b) What are the key terminologies related to fire detection systems, and how do they impact their functionality?

14. (a) Explain the role of fire pumps and pump houses for fire fighting operations during emergencies.

Or

- (b) Explain the significance of hose reels in fire fighting operations.

15. (a) How do effective hazard management contribute to overall safety and preparedness in buildings?

Or

- (b) Discuss the hazards related to hot work activities and the precautionary measures.

**Part C**

(5 × 8 = 40)

Answer **all** questions.

16. (a) How does the concept of the explosion pentagon relate to fire safety and the prevention of hazardous explosions?

Or

- (b) Explain the classification of fires based on fuel sources and how it determines the choice of fire extinguishing methods.

17. (a) Explain the criteria used to determine the suitability of fire extinguishers for particular fire risks and environments.

Or

- (b) Explain the significance of maintaining comprehensive records and the management of rejected extinguishers.

18. (a) Discuss the general requirements for the installation and maintenance of fire detection and alarm systems.

Or

- (b) How does the integration of modern technologies enhance the efficiency and reliability of fire detection and alarm systems in various environments?

19. (a) Discuss the testing procedures for internal and external fire hydrant systems.

Or

(b) Discuss the essential steps and considerations in the Installation of fire hydrants.

20. (a) Outline the necessary precautions for the proper management of flammable liquids to prevent fire hazards.

Or

(b) Discuss the hazards related to hot work activities and the precautionary measures to minimize fire risks.

**C-2502**

**Sub. Code**

**70112**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**First Semester**

**Industrial Safety and Hygiene**

**SAFETY EQUIPMENT AND PPE**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. What type of head protection is recommended for situations where there is a risk of electrical shock?
  - (a) Bump cap
  - (b) Safety helmet
  - (c) Welding helmet
  - (d) Electrically insulated hard hat
  
2. Safety goggles with shaded lenses are typically used for protection against what type of hazard?
  - (a) Impact
  - (b) Dust
  - (c) Chemical splashes
  - (d) Sunlight

3. When handling sharp objects or materials, which type of gloves should be worn for hand protection?
  - (a) Insulated gloves
  - (b) Cut-resistant gloves
  - (c) Welding gloves
  - (d) Disposable gloves
  
4. What is the primary purpose of wearing leg protection, such as steel-toed boots or knee pads, in the workplace?
  - (a) To keep your legs cool in hot weather
  - (b) To protect against punctures, impacts and abrasions
  - (c) To improve posture and balance
  - (d) To promote fashion-forward work attire
  
5. What is the primary purpose of using sunscreen in a skin protection regimen?
  - (a) To moisturize the skin
  - (b) To prevent insect bites
  - (c) To protect the skin from harmful UV rays
  - (d) To keep the skin cool
  
6. Which color is typically used for warning signs, indicating potential hazards or dangers?
  - (a) Green
  - (b) Yellow
  - (c) Blue
  - (d) Red



7. Which type of respirator provides the highest level of respiratory protection against hazardous particles and chemicals?
  - (a) Dust mask
  - (b) Half-face respirator
  - (c) Powered air-purifying respirator (PAPR)
  - (d) Full-face respirator
  
8. When should a full-face respirator be used instead of a half-face respirator?
  - (a) In any situation where respiratory protection is required
  - (b) When working with irritating gases
  - (c) When there is a risk of eye and face exposure to hazardous substances
  - (d) Never, as full-face respirators are not recommended
  
9. What is the primary purpose of the “OSHA 1910.66” standard?
  - (a) Setting standards for fall protection in construction
  - (b) Establishing guidelines for ladder safety
  - (c) Regulating the use of personal fall arrest systems
  - (d) Promoting workplace fashion safety
  
10. Which type of fall protection system relies on a horizontal lifeline and a full-body harness to protect against falls when working at heights?
  - (a) Guardrail system
  - (b) Safety net system
  - (c) Travel restraint system
  - (d) Fall arrest system

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) What is the significance of Personal Protective Equipment (PPE) in the context of head protection?

Or

- (b) Explain the permissible exposure levels for noise in the workplace and the potential hazards that excessive noise poses to workers.

12. (a) Discuss the importance of hand protection in various work environments and the common types of injuries and hazards

Or

- (b) Explain the crucial protective measures that should be implemented to minimize the risk of leg injuries in hazardous work environments.

13. (a) What role does housekeeping play in preventing skin-related injuries and how does storage impact workplace safety?

Or

- (b) What factors should be considered in the selection, use and fitting of respiratory protective equipment to ensure safety in the workplace?

14. (a) Explain the functionality and purpose of a color code for canisters in respiratory equipment.

Or

- (b) What are the common causes of skin hazards in the workplace and what physical hazards, chemical substances, plant products, and living agents are involved?

15. (a) Differentiate active and passive fall protection systems in detail.

Or

(b) What are the specific management responsibility related to the provisions, training and maintenance of personal protective equipment in various industries?

**Part C**

(5 × 8 = 40)

Answer **all** questions.

16. (a) Why is the introduction of eye protection crucial various work settings? Discuss the potential hazards that workers face without proper eye protection.

Or

(b) Detail the essential components and parts of a standard safety helmet.

17. (a) Examine the different types of hand protection available, emphasizing their specific functionalities.

Or

(b) Describe the essential maintenance and care practices for safety shoes to maintain their effectiveness in protecting the feet.

18. (a) Explain the importance of identification labels, signboards and barricades in promoting awareness and adherence to skin protection measures.

Or

(b) How can preventive measures like skin and body protection protective creams, machine guards and proper ventilation mitigate these risks?

19. (a) Discuss the key regulatory standards and guidelines to regarding the use and maintenance of respiratory protective equipment in different industries.

Or

- (b) What factors should be considered during the selection process of respiratory protective equipment to ensure its effectiveness in safeguarding against workplace respiratory hazards?

20. (a) How does the use of safety nets contribute to fall protection and what are the recommended protocols for their installation and maintenance in the workplace?

Or

- (b) Discuss the key challenges that organizations face in implementing and maintaining effective fall protection systems?

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**C-2503**

**Sub. Code**

**70113**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**First Semester**

**Industrial Safety and Hygiene**

**ELECTRICAL AND CHEMICAL SAFETY**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. What is the fundamental unit of electrical current?  
(a) Watt                      (b) Ohm  
(c) Ampere                    (d) Volt
  
2. Which part of the body is primarily affected by electrical shock?  
(a) Lungs                      (b) Kidneys  
(c) Heart                      (d) Liver
  
3. What is the purpose of the national electricity safety code?  
(a) Regulating energy prices  
(b) Ensuring uniform electrical standards  
(c) Promoting energy conservation  
(d) Facilitating power distribution

4. What is the cause of the heating effect in electrical conductors?
- (a) Voltage surge
  - (b) Current flow
  - (c) Insulation breakdown
  - (d) Excessive energy
5. What is the recommended safe limit for amperage in electrical circuits?
- (a) 5 A
  - (b) 10 A
  - (c) 15 A
  - (d) 20 A
6. Which device is used to protect against electrical hazards by interrupting power when a ground fault is detected?
- (a) Earth leakage circuit breaker
  - (b) Miniature circuit breaker
  - (c) Overload relay
  - (d) Grounding equipment
7. Which system is used globally for the classification and labeling of chemicals?
- (a) WHMIS
  - (b) OSHA
  - (c) GHS
  - (d) EPA
8. What do flammable limits indicate in the context of chemical hazards?
- (a) The highest concentration of a flammable substance
  - (b) The lowest concentration of a flammable substance
  - (c) The range of concentration at which a substance can ignite
  - (d) The level of concentration safe for human exposure

9. What does the term “chemical acquisition” refer to in the context of managing hazardous chemicals?
- (a) Transporting chemicals to designated locations
  - (b) Purchasing chemicals for laboratory use
  - (c) Disposing of chemicals safely
  - (d) Storing chemicals in specialized containers
10. Which of the following is considered an effective risk control measure for chemical exposure?
- (a) Environmental monitoring
  - (b) Chemical isolation
  - (c) Administrative controls
  - (d) Chemical containment

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Describe the role of capacitors and inductors in electrical circuits, and explain how they store and release energy.

Or

- (b) Explain the significance of CPR (Cardiopulmonary Resuscitation) in the context of electrical accidents and its role in potentially saving lives.

12. (a) Explain the primary and secondary hazards associated with electrical incidents and their implications for overall safety measures.

Or

- (b) What are the different voltage classifications, and how do they impact the design and safety of electrical systems in various environments?

13. (a) How do fuses, circuit breakers, and overload relays contribute to electrical safety?

Or

- (b) What is the significance of no-load protection electrical circuits?

14. (a) How are toxicological properties such as LC50 and LD50 used in assessing health risks related to chemical exposure?

Or

- (b) How does health surveillance aid in evaluating risks associated with chemical exposure in the workplace?

15. (a) How does the classification of hazardous chemicals align with the principles of green chemistry and sustainability?

Or

- (b) Explain the significance of the emergency information panel and HAZCHEM code in ensuring effective communication and response during chemical emergencies.



**Part C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Discuss the importance of adhering to international standards on electrical safety and how they contribute to promoting a global culture of electrical safety best practices.

Or

- (b) Discuss the potential risks and consequences associated with overloads and short circuits in electrical circuits.
17. (a) Explain the heating effects of current and electromagnetic forces in electrical systems, emphasizing their impact on equipment and human safety.

Or

- (b) Identify various sources of static electricity and their potential hazards in industrial and domestic settings.
18. (a) Discuss the role of proper grounding play in minimizing electrical risks.

Or

- (b) Why is electrical guarding and personal protective equipment crucial in minimizing hazards?
19. (a) What role do WHMIS symbols and CLP hazard pictograms play in communicating chemical hazards to workers and the public?

Or

- (b) Explain the role of risk assessment in determining safe exposure limits for handling chemicals.

20. (a) Discuss the key considerations in the acquisition of chemicals to ensure their safe and responsible management.

Or

- (b) Discuss the importance of maintaining an inventory and implementing effective tracking systems for hazardous chemicals in industrial and laboratory settings.
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**C-2504**

**Sub. Code**

**70114**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**First Semester**

**Industrial Safety and Hygiene**

**SAFETY CONCEPTS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the questions.

1. Which organization is responsible for coordinating disaster response efforts in the United States?
  - (a) FEMA (Federal Emergency Management Agency)
  - (b) CIA (Central Intelligence Agency)
  - (c) NASA (National Aeronautics and Space Administration)
  - (d) WHO (World Health Organization)
  
2. Which of the following is a key principle of safe lifting techniques?
  - (a) Bend at the waist when lifting heavy objects
  - (b) Keep the load close to your body
  - (c) Use your back to lift the load
  - (d) Lift as quickly as possible to reduce strain

3. Which of the following is an example of an unsafe act?
  - (a) Wearing a hard hat in a designated construction area
  - (b) Reporting a safety concern to a supervisor
  - (c) Operating heavy machinery without the required training or certification
  - (d) Complying with established safety guidelines and procedures
  
4. Which of the following is a key element of a safety audit checklist?
  - (a) Employee attendance records
  - (b) Company financial statements
  - (c) Emergency evacuation procedures
  - (d) Marketing strategies
  
5. In accident investigation, what is the purpose of collecting physical evidence?
  - (a) To determine who is at fault
  - (b) To establish a timeline of events
  - (c) To help with employee discipline
  - (d) To reconstruct the sequence of events and causes of the accident
  
6. When should an accident report be submitted in most workplace settings?
  - (a) Only for serious or life-threatening accidents
  - (b) Within 30 days of the accident
  - (c) Immediately or as soon as possible after the accident occurs
  - (d) At the end of the fiscal year

7. What does ANSI Z16.2 primarily address in the field of safety and health statistics?
- (a) Definitions and methods for collecting data on injuries and illnesses
  - (b) Guidelines for emergency response procedures
  - (c) Standards for workplace lighting and ergonomics
  - (d) Guidelines for conducting safety inspections
8. Which of the following is an example of a proactive safety monitoring approach?
- (a) Reviewing accident reports after an incident occurs
  - (b) Regularly inspecting equipment for defects and potential hazards
  - (c) Reacting to incidents as they happen without prior preparation
  - (d) Ignoring safety concerns until they become critical issues
9. Which of the following is an example of an effective safety education method?
- (a) Conducting safety training sessions only when new employees are hired
  - (b) Posting safety regulations in a location where employees can't see them
  - (c) Providing regular safety training and resources for all employees
  - (d) Ignoring safety education and focusing solely on production

10. What is the primary objective of a safety campaign in a workplace or community?
- (a) To promote a competitive work environment
  - (b) To reduce safety regulations and requirements
  - (c) To raise awareness and encourage safe behaviors
  - (d) To increase the number of accidents for statistical purposes

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) How did historical safety movements shape modern safety standards and regulations in workplaces?

Or

- (b) How do supervisors and managers ensure productivity, quality, and safety simultaneously?

12. (a) Discuss the key components of a safety audit in detail.

Or

- (b) How does the process of non-conformity reporting in safety audits aid in identifying and addressing safety deficiencies and violations in workplaces?

13. (a) How does the concept of the domino sequence aid in understanding the chain of events leading to accidents, and how can it inform proactive safety measures?

Or

- (b) Discuss the protocols for reporting accidents to statutory authorities.

14. (a) How does the “Safe T” score contribute to assessing safety performance?

Or

- (b) What is the methodology for calculating accident indices, and how do frequency rate and severity rate contribute to evaluating safety performance in organizations?

15. (a) How do safety awards and celebrations contribute to promoting safety awareness?

Or

- (b) Discuss the role of government agencies play in safety training.

**Part C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Describe the core concepts of safety management, encompassing risk assessment and preventive measures across organizations?

Or

- (b) How does the interplay between productivity, quality, and safety affect overall organizational performance and long-term success in competitive markets?

17. (a) Enumerate the significance of using an audit checklist and report review during safety inspections.

Or

- (b) What is the standard methodology for conducting a comprehensive safety audit, and how does it encompass the evaluation of safety protocols and practices within organizations?

18. (a) Discuss the key principles of accident prevention with suitable example.

Or

- (b) What are the essential components of maintaining records for accidents, and how do departmental accident reports contribute to comprehensive accident documentation?
19. (a) How does ANSI Z16.1 recommend practices for compiling and measuring work injury experience, and what are the key parameters involved in this process?
- (b) How are temporary total disabilities assessed, and what are the implications for monitoring safety performance and implementing preventive measures?
20. (a) Discuss the key elements of effective safety training methods, including seminars, and competitions.

Or

- (b) Discuss the various methods of promoting safety, including motivation and communication strategies.
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**C-2505**

**Sub. Code**

**70116A**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**First Semester**

**Industrial Safety and Hygiene**

**ENVIRONMENTAL SAFETY**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the questions.

1. Which of the following is a greenhouse gas associated with climate change?
  - (a) Nitrogen
  - (b) Oxygen
  - (c) Carbon dioxide (CO<sub>2</sub>)
  - (d) Hydrogen
  
2. What is a primary source of indoor air pollution in homes and buildings?
  - (a) Outdoor industrial emissions
  - (b) Automobile exhaust
  - (c) Natural ventilation
  - (d) Cooking and heating appliances

3. What is the main cause of thermal pollution in water bodies, which can harm aquatic ecosystems?
  - (a) Oil spills
  - (b) Geothermal energy production
  - (c) Industrial discharges of heated water
  - (d) Sewage overflow
  
4. Which of the following air pollutants is responsible for the formation of acid rain?
  - (a) Carbon monoxide (CO)
  - (b) Sulfur dioxide (SO<sub>2</sub>)
  - (c) Particulate matter (PM)
  - (d) Ozone (O<sub>3</sub>)
  
5. How is hazardous waste typically classified based on its characteristics?
  - (a) By color
  - (b) By weight
  - (c) By its potential to ignite, corrode, react, or be toxic
  - (d) By the date of disposal.
  
6. Which federal agency in the United States is responsible for regulating hazardous waste under the Resource Conservation and Recovery Act (RCRA)?
  - (a) EPA
  - (b) FDA
  - (c) USDA
  - (d) CDC
  
7. What is the primary goal of environmental measurement and control?
  - (a) To increase pollution levels
  - (b) To monitor and mitigate environmental impact
  - (c) To encourage unregulated emissions
  - (d) To minimize data collection and analysis

8. What does the acronym “GIS” stand for in the context of environmental measurement and control?
- (a) Global Industrial Standards
  - (b) Groundwater Infiltration System
  - (c) Geographic Information System
  - (d) Greenhouse Inspection Service.
9. Which government agency in India is primarily responsible for enforcing environmental regulations and pollution control measures?
- (a) Indian Space Research Organisation (ISRO)
  - (b) Ministry of Defence
  - (c) Central Pollution Control Board (CPCB)
  - (d) Indian Railway Ministry
10. Under the Plastic Waste Management Rules, 2016, what is the minimum thickness required for plastic bags to be considered as carry bags?
- (a) 10 microns                      (b) 100 microns
  - (c) 1 millimeter                      (d) 5 centimeters

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) How do air pollutants affect human beings, and materials, and what are the immediate and long-term consequences of exposure to these pollutants?

Or

- (b) Discuss the impact of deforestation on air quality and the environment in detail.

12. (a) Discuss the various health hazards associated with the contamination of water sources by different pollutants.

Or

- (b) Explain the common treatment methods used for managing and reducing the impact of various industrial effluents on water sources and surrounding ecosystems.

13. (a) Discuss the challenges and protocols associated with the treatment and disposal of toxic and radioactive wastes.

Or

- (b) Discuss the potential hazards related to bio-processes in hazardous waste management.

14. (a) What are the key maintenance considerations for ensuring the effective operation of pollution control systems?

Or

- (b) Discuss the importance of environmental laws in promoting sustainable practices and pollution reduction.

15. (a) How is pollution controlled in the cement industry, and what are the key strategies employed to minimize environmental impact during the production process?

Or

- (b) What are the strategies employed by thermal power plants to control pollution and manage the environmental impact associated with power generation?

**Part C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) What are the dangers associated with the release of CFCs(Chlorofluorocarbons) into the atmosphere, and how do these compounds contribute to ozone depletion and environmental degradation?

Or

- (b) What are the potential risks associated with depletion of the ozone layer, and how does this phenomenon contribute to the hazards of air pollution and climate change?
17. (a) What are the different classifications of water pollutants, and how do they impact the quality of water sources and ecosystems?

Or

- (b) How can effective management of water pollution contribute to the sustainable use of water resources and the protection of aquatic ecosystems and biodiversity?
18. (a) Discuss the potential benefits of recycling and reusing hazardous waste materials.

Or

- (b) Discuss solid waste management strategies with suitable example.
19. (a) Discuss the functioning of gravitational settling chambers and bag filters in controlling particulate emissions

Or

- (b) What role does the Pollution Control Board play in enforcing environmental standards and regulations?

20. (a) How do dying and pigment industries implement pollution control measures to minimize environmental harm and promote sustainable practices in their production processes?

Or

- (b) Discuss the specific pollution control measures implemented in the paper Industry to manage waste and reduce environmental harm.
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**C-2506**

**Sub. Code**

**70116B**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**First Semester**

**Industrial Safety and Hygiene**

**WORK STUDY AND ERGONOMICS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Section A**

(10 × 1 = 10)

Answer **all** the questions.

1. In work study, what does the term “method study” refer to?
  - (a) Evaluating worker satisfaction
  - (b) Examining the work environment
  - (c) Analyzing and improving work processes
  - (d) Measuring work performance
  
2. What is the term for a momentary lapse in attention that can lead to an accident?
  - (a) Concentration
  - (b) Fatigue
  - (c) Complacency
  - (d) Momentary distraction

3. Repetitive strain injuries (RSIs) are often associated with which ergonomic issue?
  - (a) Inadequate lighting
  - (b) Poor posture
  - (c) Incorrect keyboard height
  - (d) Excessive noise levels
  
4. What is the primary goal of proper ergonomic design for a workstation?
  - (a) To encourage employees to stand at their desks
  - (b) To reduce the need for natural lighting
  - (c) To minimize stress and discomfort for employees
  - (d) To eliminate the need for breaks
  
5. In the context of ergonomic PPE design, what does “reducing fatigue” typically refer to?
  - (a) Reducing the lifespan of PPE
  - (b) Minimizing the amount of maintenance required for PPE
  - (c) Decreasing the physical and mental strain on the wearer during extended use
  - (d) Making PPE more complicated to use
  
6. Which of the following is a factor to consider when selecting appropriate PPE?
  - (a) The latest fashion trends
  - (b) Personal comfort and style
  - (c) The specific hazards and risks in the workplace
  - (d) The brand popularity of the PPE



7. In equipment design, what is meant by “material selection”?
  - (a) Choosing the most cost-effective materials
  - (b) Selecting materials based on aesthetics
  - (c) Picking the most environmentally friendly materials
  - (d) Ignoring materials since it’s not important in design
8. In equipment design, what does “safety factor” refer to?
  - (a) A margin of safety in case of equipment failure
  - (b) A safety manual for equipment operation
  - (c) The color-coding of safety equipment
  - (d) The budget allocated for safety training
9. When designing safety features, what does fail-safe’ design mean?
  - (a) Creating features that will intentionally fail under stress to avoid misuse
  - (b) Designing features to be as complicated as possible
  - (c) Designing features to function as intended even in the event of a failure or malfunction
  - (d) Focusing on aesthetics over functionality
10. Which type of man-machine system design places a heavy emphasis on reducing the cognitive workload on the human operator?
  - (a) Augmented reality systems
  - (b) Fully manual systems
  - (c) Decision support systems
  - (d) Unmanned systems

**Section B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) How does the study of operations and work content contribute to enhancing productivity in various industries?

Or

- (b) Discuss the principles of method study and its application in minimizing risks.

12. (a) Discuss the importance of ergonomic considerations in maintaining employee health and well-being.

Or

- (b) Explain the key considerations in designing workbenches and seating arrangements to ensure the comfort and well-being of workers.

13. (a) What are the key concepts of personal protective equipment (PPE), and how do they ensure worker safety in various industries?

Or

- (b) Discuss the significance of training programs for the proper use of PPE in promoting a safety-oriented work culture.

14. (a) Discuss the methodology of process design and its role in optimizing operational efficiency in industries.

Or

- (b) List the potential hazards associated with industrial processes and equipment.

15. (a) Explain the standards used in the selection and training of workers to ensure a safe working environment in man-machine systems

Or

- (b) Discuss the types of controls and displays used in man-machine systems.

**Section C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Explain the significance of task breakdown in identifying areas for improvement and optimizing work processes.

Or

- (b) How does work study contribute to productivity, quality standards, and safety through the implementation of the PQS (Productivity, Quality, and Safety) framework?

17. (a) Discuss the applications of ergonomic principles on the shop floor and their impact on optimizing work processes.

Or

- (b) Explain the importance of the strategic placement of controls and displays to enhance operational efficiency and reduce the risk of errors or accidents.

18. (a) Discuss the different types of PPE and their specific roles in safeguarding workers from occupational hazards.

Or

(b) Explain the role of regulatory bodies and industry standards in establishing and enforcing guidelines for the use of PPE, ensuring a secure working environment for all employees.

19. (a) Discuss the role of various machine tools with built-in safety features in minimizing hazards and ensuring operator safety.

Or

(b) How does the integration of safety measures into the process and equipment design promote a secure workplace and efficient functioning of industrial operations?

20. (a) Discuss the key job and personal risk factors affecting man-machine systems and their implications for occupational health and safety.

Or

(b) What are the penalties associated with poor design in man-machine systems, and how can adherence to guidelines for safe design and postures mitigate these penalties?

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**C-2508**

**Sub. Code**

**70121**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**Second Semester**

**Industrial Safety and Hygiene**

**CONSTRUCTION SAFETY**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the questions.

1. Which of the following is the primary goal of construction safety?
  - (a) profits
  - (b) project
  - (c) preventing accidents
  - (d) budget
  
2. What is the purpose of a Job Safety Analysis (JSA)?
  - (a) Identifying potential hazards in construction projects
  - (b) Monitoring employee attendance
  - (c) Analyzing project profitability
  - (d) Conducting equipment inspections

3. Which of the following is an example of a fall protection system in construction?
  - (a) Safety glasses
  - (b) Hard hats
  - (c) Guardrails
  - (d) Earplugs
  
4. What is the recommended height for fall in feet protection to be provided in construction?
  - (a) 6
  - (b) 8
  - (c) 10
  - (d) 12
  
5. What does the term “excavation” refer to in construction safety?
  - (a) removing debris
  - (b) installation of electrical systems
  - (c) digging of trenches
  - (d) transportation in construction
  
6. Which of the following is a common hazard associated with working in confined spaces?
  - (a) Falls from heights
  - (b) Electrical shock
  - (c) Inhalation of toxic gases
  - (d) Eye injuries

7. Which of the following is an example of personal protective equipment (PPE) in construction?
  - (a) Power tools
  - (b) Scaffolding
  - (c) First aid kits
  - (d) Safety harnesses
  
8. Which of the following is a common cause of electrical hazards in construction?
  - (a) Poor weather
  - (b) Improper use of hand tools
  - (c) Failure to wear PPE
  - (d) Overloaded electrical circuits
  
9. What does the acronym “OSHA” stand for in construction safety?
  - (a) Occupational Safety and Hazard Association
  - (b) Occupational Standards and Health Administration
  - (c) Occupational Safety and Health Agency
  - (d) Occupational Safety and Health Administration
  
10. What is the purpose of a hard hat in construction safety?
  - (a) To protect the eyes
  - (b) To prevent falls
  - (c) To protect the head
  - (d) To reduce noise levels

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly discuss the causes of accidents in construction activities.

Or

- (b) Explain the importance of training in construction safety.

12. (a) Shortly discuss about falsework.

Or

- (b) How to avoid the hazards in road works.

13. (a) Explore - safe use of ladders.

Or

- (b) Distinguish fall prevention and fall protection.

14. (a) List the uses of mobile cranes.

Or

- (b) Name the most widely used portable electrical tools and explore their importance.

15. (a) Shortly discuss about trusses.

Or

- (b) What is pre survey inspection and explore the importance of it?



**Part C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Explore in detail about the quality assurance in construction.

Or

- (b) What are fatal accidents? Briefly discuss them.

17. (a) Explain in detail about the Excavations.

Or

- (b) Differentiate pre blast and post blast inspection.

18. (a) Discuss the applications of stairways and gangways in construction.

Or

- (b) Briefly discuss about construction safety monitoring system.

19. (a) Explain the following:

- (i) winches and
- (ii) chain pulley blocks.

Or

- (b) Briefly discuss the role of manual handling and the importance of manual handling scaffolding.

20. (a) Explain in detail about the safe demolition of concrete buildings.

Or

(b) Describe the fire hazards and prevention methods with one example.

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**C-2509**

**Sub. Code**

**70122**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**Second Semester**

**Industrial Safety and Hygiene**

**EHS LAWS AND ACTS**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**PART A**

(10 × 1 = 10)

Answer **all** the questions.

1. In which year was the Factories Act 1948 implemented in India?  
(a) 1951                      (b) 1945  
(c) 1975                      (d) 1985
2. According to the Factories Act 1948, what is the maximum working week hours for workers?  
(a) 25                          (b) 56  
(c) 20                          (d) 48
3. Which of the following is NOT an objective of the Factories Act 1948?  
(a) Protecting health and safety of workers  
(b) Adhering to global best practices  
(c) Ensuring decent livelihood for all workers  
(d) Minimizing environmental pollution

4. What action does the Factories Act 1948 require employers to take regarding weekly holidays for workers?
  - (a) Optional
  - (b) Suggested
  - (c) Mandatory
  - (d) Recommended
  
5. Which Act was enacted in response to the Bhopal Gas Tragedy of 1984?
  - (a) Mines Act 1952
  - (b) Dock Workers Act, 1986
  - (c) Environment Protection Act, 1986
  - (d) Motor Transport Workers Act. 1961
  
6. Under the Factories Act 1948. employers are required to provide proper sanitary facilities and a clean, potable water supply. What action will be taken if they fail to take Strict action?
  - (a) Warning
  - (b) Fine
  - (c) Suspension
  - (d) Strict action
  
7. Which Act regulates the employment and conditions of service of building and other construction workers?
  - (a) Dock Workers Act, 1986
  - (b) Mines Act, 1952
  - (c) Petroleum Act, 1934
  - (d) Building and Other Construction Workers Act, 1996
  
8. The National Green Tribunal Act, 2010 is concerned with the disposal of cases related to which of the following?
  - (a) Labor disputes
  - (b) Transport regulations
  - (c) Environmental protection
  - (d) Industrial accidents



15. (a) Describe in detail about the international acts and their necessity.

Or

- (b) Write short notes on HASAWA 1974, UK.

**PART C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Employment of young persons – Explain and list its benefits.

Or

- (b) Briefly discuss the health chapters of the Factories Act 1948.

17. (a) Describe in detail about the management and handling rules for the batteries.

Or

- (b) List the powers and functions of state and central boards in pollution control.

18. (a) Explore the duties of authorities.

Or

- (b) Safety data sheets – briefly discuss them.

19. (a) Briefly discuss about Explosives Act 1983.

Or

- (b) What is the Workman Compensation Act? Explain it with relevant data.

20. (a) Describe – the Health Act of the USA.

Or

- (b) Explain — OSHAS 18000.

**C-2510**

**Sub. Code**

**70123**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**Second Semester**

**Industrial Safety and Hygiene**

**INDUSTRIAL HYGIENE / HAZARD IDENTIFICATION  
AND ASSESSMENT**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the questions.

1. Which of the following is an example of a physical hazard?  
(a) Toxic fumes      (b) Fire  
(c) Noise pollution      (d) Food poisoning
2. What type of hazard do chemicals such as acids and Solvents belong to?  
(a) Psychosocial hazard  
(b) Chemical hazard  
(c) Ergonomic hazard  
(d) Biological hazard
3. Which of the following is an example of an ergonomic hazard?  
(a) Workplace violence  
(b) Asbestos exposure  
(c) Repetitive strain injury  
(d) Electrocution

4. Which of the following is an example of a biological hazard?  
(a) Fall from height (b) Chemical spill  
(c) Bacterial exposure (d) Hearing loss
5. Which of the following is an example of a natural hazard?  
(a) Chemical leak (b) Earthquake  
(c) Slip and fall (d) Machine malfunction
6. Which of the following is an example of a radiation hazard?  
(a) X-ray exposure (b) Brain injury  
(c) Air pollution (d) Fire outbreak
7. What type of hazard is caused by faulty electrical equipment or unsafe wiring?  
(a) Electrical (b) Chemical  
(c) Physical (d) Biological
8. Exposure to asbestos in older buildings is a well-known OSH hazard. Which category does it fall under which hazard?  
(a) Biological (b) Chemical  
(c) Radiological (d) Physical
9. Who is considered the father of industrial hygiene?  
(a) Avicenna (b) Louis Pasteur  
(c) Paracelsus (d) Hippocrates
10. What is the purpose of an exposure assessment in industrial hygiene?  
(a) To evaluate and quantify the level of workers' exposure to hazardous substance  
(b) To inspect the cleaning and organization  
(c) To assess the efficiency of the ventilation system  
(d) To monitor the temperature and humidity in the workplace



**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Write short notes on industrial hygiene.  
Or  
(b) How can skin diseases be reduced? Explain skin prevention methods.
12. (a) Shortly, discuss about Thermal stress.  
Or  
(b) Define Ergonomics. And briefly discuss about it.
13. (a) Classify toxic materials and explain their effects.  
Or  
(b) Write short notes on ACGIH.
14. (a) Shortly, discuss the white finger.  
Or  
(b) What is WRLUD? Explore it with relevant data.
15. (a) Explore the lung function tests.  
Or  
(b) What is AAQ? Explain briefly.

**Part C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Explain in detail about the Nervous System.  
Or  
(b) Define cell and cell structure and briefly discuss about the structure of the body.

17. (a) How to evaluate the industrial Noise? And explain the control measures.

Or

(b) HIV — Explain.

18. (a) Describe the stages of Toxicology evaluation.

Or

(b) Explain the following:

(i) Asphyxiants and

(ii) Anesthetics.

19. (a) Briefly discuss about carpal tunnel syndrome.

Or

(b) Describe in detail about the workplace risk assessment.

20. (a) Explain the analytical methods for the following:

(i) Blood and

(ii) Urine.

Or

(b) Briefly discuss about HVAC.

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**C-2516**

**Sub. Code**

**70124**

**M.Sc. DEGREE EXAMINATION, APRIL 2024.**

**Second Semester**

**Industrial Safety and Hygiene**

**HAZARDOUS WASTE MANAGEMENT**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Section A**

(10 × 1 = 10)

Answer **all** the questions.

1. When did the Hazardous Waste Management Act enacted in India?
  - (a) 1988
  - (b) 1989
  - (c) 1990
  - (d) 1991
  
2. Who is responsible for the safe disposal of the generated hazardous waste?
  - (a) Generator
  - (b) Receiver
  - (c) Waste facility
  - (d) TSDF
  
3. The activities of hazardous waste management facility are
  - (a) OPA
  - (b) HAS
  - (c) TSD
  - (d) SOS

4. What is the goal of the Hazardous Waste Management Unit?
- (a) Protect health and environment
  - (b) Chemical analysis
  - (c) Import
  - (d) Export
5. Tracking of the hazardous waste is done to prevent \_\_\_\_\_.
- (a) Export
  - (b) Import
  - (c) Midnight dumping
  - (d) Traffic
6. Which form of shipment is common for the transport of hazardous waste?
- (a) Road
  - (b) Rail
  - (c) Air
  - (d) Inland Water
7. Groundwater containing bacteria and viruses can result in \_\_\_\_\_
- (a) Cholera
  - (b) Methemoglobinemia
  - (c) Kidney problem
  - (d) Liver problem
8. \_\_\_\_\_ from leachate can lead to gum disease in humans in case of acute exposure.
- (a) Nickel
  - (b) Benzene
  - (c) Phenol
  - (d) Cadmium
9. Motion of groundwater along with contaminants tend to form \_\_\_\_\_
- (a) Plume
  - (b) Fume
  - (c) Flume
  - (d) Stack
10. Which of the following is a natural source of contamination?
- (a) Organic matter
  - (b) Petroleum
  - (c) Leachate
  - (d) Septic system

**Section B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Explore the types of hazardous wastes.

Or

- (b) Briefly discuss the roles of stakeholders in the management of waste.

12. (a) What is the TCLP test? Explain in detail about it.

Or

- (b) Write short notes on hazardous characteristics and waste generation.

13. (a) Explain the method of storing municipal waste.

Or

- (b) Describe in detail about the labelling handling of hazardous wastes.

14. (a) Briefly discuss about the thermal conversion technologies.

Or

- (b) Write short notes on the impact of outputs on the environment.

15. (a) Shortly discuss about the site selection methods.

Or

- (b) What is landfill remediation? Discuss briefly.

**Section C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Explain in detail how municipal solid wastes are handled.

Or

- (b) Describe the following :

- (i) electronic wastes and
- (ii) nuclear wastes.

17. (a) Briefly discuss about the waste exchange.

Or

- (b) Explore the methods adopted for recycling and reuse of wastes.

18. (a) How do we segregate the wastes at the source? Explain in detail about the need for and importance of the segregation of wastes.

Or

- (b) Briefly discuss the hazardous waste manifests and transport.

19. (a) Explore the objectives of waste processing.

Or

- (b) Explain in detail about the treatment of biomedical waste.

20. (a) What is leachate? Describe landfill gas management in detail.

Or

- (b) Briefly discuss about waste disposal and environment monitoring.

**C-2517**

**Sub. Code**

**70126A**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**Second Semester**

**Industrial Safety and Hygiene**

**TEXTILE SAFETY**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the questions.

1. Which of the following is a respiratory illness potentially caused by exposure to cotton dust in textile workplace?
  - (a) Skin irritation
  - (b) Byssinosis
  - (c) Heatstroke
  - (d) Noise-induced hearing loss
  
2. Workers in textile dyeing units are most at risk for health problems caused by:
  - (a) Repetitive motions
  - (b) Chemical exposure
  - (c) Musculoskeletal disorders
  - (d) Fire hazards (only)

3. To minimize the risk of noise-induced hearing loss in textile factories, it's crucial to:
  - (a) Prioritize proper ventilation
  - (b) Implement ergonomic workstation design
  - (c) Provide training on chemical handling
  - (d) Use appropriate hearing protection equipment (PPE)
  
4. A combination of factors like hot and humid conditions and heavy lifting can lead to:
  - (a) Vision problems
  - (b) Heat stress and musculoskeletal disorders
  - (c) Chemical burns
  - (d) Noise pollution
  
5. The primary purpose of scouring in textile processing
  - (a) Remove impurities and improve dye uptake
  - (b) Make fabrics softer and more comfortable
  - (c) Add color to fabrics
  - (d) Protect textiles from fire and heat
  
6. Which of the following processes is most likely used to create intricate patterns on a white cotton T-shirt?
  - (a) Scouring
  - (b) Bleaching only
  - (c) Printing
  - (d) Dyeing with multiple colors



7. In the dyeing process, auxiliaries are used to
- (a) Create a protective coating on the fabric surface
  - (b) Remove natural impurities from raw fibers
  - (c) Help dyes penetrate the fibers more effectively
  - (d) Lighten the color of fabrics
8. Which of the following textile processes most closely resembles the meaning of “defulent”?
- (a) Bleaching
  - (b) Dyeing
  - (c) Finishing
  - (d) Scouring
9. In the context of preparing raw fibers for further processing, the purpose of a “defulent” process would be to;
- (a) Make them more fire- resistant
  - (b) Improve their ability to absorb dyes
  - (c) Enhance the color of the fibers
  - (d) Add a permanent wrinkle-free finish
10. Fabrics made from wool typically require a “defulent” process because they naturally contain:
- (a) Cotton
  - (b) Lanolin
  - (c) Fabric
  - (d) Kevlar

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Narrate the step by step process flow for long staple spinning.

Or

- (b) Shortly discuss about flyer frames.

12. (a) Classify non woven fabric and discuss in detail about the properties of non woven textiles.

Or

- (b) What is a loom in textile? And shortly, discuss the shuttle loom process.

13. (a) Name the chemical used for scouring and explain its effect.

Or

- (b) Briefly discuss the bleaching process and its importance in the textile industry.

14. (a) List the possible health hazards due to dust.

Or

- (b) Identify the specific hazards in the work environment and briefly discuss the special precautions.

15. (a) The safety status of the textile industry in India will be discussed briefly.

Or

- (b) How to minimize the textile waste?

**Part C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Briefly discuss the jute spinning process flow chart.

Or

- (b) Explore the possible accident hazards in the textile industry and prevention methods.

17. (a) Mention the types of sizing and briefly discuss about the high pressure sizing.

Or

- (b) List the types of manufacturing fabric techniques involved in textile industries and explain the knitting process with relevant data.

18. (a) Explore the types of textile dyeing and express any one method of fabric dyeing.

Or

- (b) Describe the finishing operations in textile industries with one example.

19. (a) Briefly discuss about Personal Protective Equipment.

Or

- (b) What kind of noise is generated in the textile industry? And how it will affect HUMAN health?

20. (a) Elaborately discuss the safety status of the textile industry in India.

Or

- (b) What are all the rules that need to be followed in the textile industry? Describe about it.
-

C-2518

Sub. Code

70126B

M.Sc. DEGREE EXAMINATION, APRIL 2024

Second Semester

Industrial Safety and Hygiene

SAFETY IN MINES

(2023 onwards)

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the questions.

1. Open cast mines are susceptible to hazards like:
  - (a) Slope instability
  - (b) Chemical attack
  - (c) Rock bursts
  - (d) Methane gas explosions
2. The primary ventilation challenge in underground mines is:
  - (a) Maintaining air circulation
  - (b) Noise reduction
  - (c) Dust control
  - (d) Water Treatment
3. Tunnelling projects often employ:
  - (a) Conveyor belts
  - (b) Open blasting
  - (c) Boring Machines
  - (d) Hand tools

4. Risk assessment in mining involves identifying the following:
  - (a) Potential hazards
  - (b) Production targets
  - (c) Equipment brand names
  - (d) Water Contamination
5. Accident investigation in mines aims to:
  - (a) Importing
  - (b) Assign blame
  - (c) Celebrate safety record
  - (d) Prevent future incidents
6. Personal Protective Equipment (PPE) in mines is crucial for:
  - (a) Comfort
  - (b) Protecting worker health
  - (c) Fashion statements
  - (d) Environment
7. Proper training for miners includes:
  - (a) Ignoring safety warnings
  - (b) Shortcuts for tasks
  - (c) Recording
  - (d) Safe work procedures
8. Exposure to coal dust can lead to:
  - (a) Improved eyesight
  - (b) Black lung disease
  - (c) Increased strength
  - (d) Liver problem

9. Mining companies are responsible for:
- (a) Export minerals
  - (b) Providing a safe work environment
  - (c) Ignoring safety regulations
  - (d) Hiding safety violations
10. A strong safety culture in mining emphasizes the following:
- (a) Tracking of truck
  - (b) Taking risks to meet deadlines
  - (c) Prioritizing worker safety
  - (d) Ignoring safety concerns

**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) How to prevent accidents from heavy machinery.
- Or
- (b) Discuss shortly about garage safety.
12. (a) Briefly discuss the need and application of underground mines.
- Or
- (b) Define sensor and briefly discuss the uses of warning sensors.
13. (a) How to control the atmospheric pollution due to gases.
- Or
- (b) Describe the need and uses of lighting in the tunnel.
14. (a) Explain – fault tree analysis.
- Or
- (b) Elaborately discuss the control chart rules and elements related to risk assessment.

15. (a) What are minor accidents and their prevention methods?

Or

(b) How do you investigate accidents? Explain with one example.

**Part C** (5 × 8 = 40)

Answer **all** the questions.

16. (a) Briefly discuss the need for and importance of an accident reporting system.

Or

(b) Explore the electrical system in mines and its safety measures.

17. (a) What is the gas detector? Explain the functions of gas detectors in mines.

Or

(b) Describe in detail about water flooding in underground mines.

18. (a) Name the tunnel that is constructed between silkyhara and dandalgaon. And briefly discuss about the causes of tunnel collapse.

Or

(b) Describe transport in the tunnel in detail.

19. (a) Name the significant elements of risk assessment and briefly discuss each with necessary data.

Or

(b) Define fuzzy risk assessment and explore its uses of it.

20. (a) Briefly discuss about the cost of the accident.

Or

(b) Explain the following:

(i) fatal accidents and

(ii) reportable accidents.



**C-2519**

**Sub. Code**

**70126C**

**M.Sc. DEGREE EXAMINATION, APRIL 2024**

**Second Semester**

**Industrial Safety in Hygiene**

**TRANSPORT SAFETY**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** questions.

1. Separate designated routes for pedestrians and vehicles are crucial for:
  - (a) Flow of vehicle
  - (b) Minimizing collision risks
  - (c) Faster loading times
  - (d) Increased traffic
2. Safe industrial transport practices emphasize:
  - (a) Road line safety
  - (b) Encouraging unsafe shortcuts
  - (c) Ignoring traffic signs
  - (d) Maintenance and operation

3. Appropriate PPE for workers near moving vehicles might include:
  - (a) High-visibility vests
  - (b) Unsecured hard hats
  - (c) Open-toed sandals
  - (d) Gloves
4. Industrial transport safety should prioritize.
  - (a) Light safety
  - (b) Ignoring risk assessments
  - (c) Regular vehicle inspection
  - (d) No communication between personnel
5. Following safe loading/unloading procedures includes:
  - (a) Unstable and unsecured loads
  - (b) Using lifting equipment properly
  - (c) Overloading vehicles
  - (d) None of the above
6. When selecting a motor truck for a task, a key consideration is:
  - (a) Brand popularity
  - (b) Matching the vehicle to the specific task
  - (c) Ignoring load capacity limits
  - (d) Lane checking

7. Safe operation of a truck emphasizes:
  - (a) Ignoring blind spots
  - (b) Exceeding speed limits
  - (c) Driving
  - (d) Defensive driving techniques
8. Road transport safety includes:
  - (a) Lifting
  - (b) Distracted driving
  - (c) Driver training and safety
  - (d) Encouraging fatigue while driving
9. Maintaining driver concentration is crucial because
  - (a) Operation of vehicles
  - (b) Enables ignoring traffic signals
  - (c) It allows for multitasking
  - (d) Reduced risk of accidents
10. Fleet accident safety programs aim to:
  - (a) Wearing safety equipment
  - (b) Minimize accident reporting
  - (c) Encourage unsafe driving practices
  - (d) Prevent future incidents

**Part B**

(5 × 5 = 25)

Answer **all** questions.

11. (a) List the uses of TREM.

Or

- (b) Write short notes on the responsibilities of the driver for safe transport.

12. (a) Explore the Motor Vehicles Act and its importance to society.

Or

- (b) What is motor vehicle insurance, and why do we need insurance for motor vehicles?

13. (a) List a minimum of five necessary slogans in the drivers cabin.

Or

- (b) Explore the accident investigation procedures with suitable examples.

14. (a) Shortly, discuss the ruling gradient in road safety.

Or

- (b) What is a plant railway? Explain about it.

15. (a) Identify the type of movement of cranes and briefly discuss it.

Or

- (b) When do we need to change the battery, and when do we need to charge the battery?

**Part C**

(5 × 8 = 40)

Answer **all** questions.

16. (a) Define speed. Briefly discuss the measurement method speed.

Or

- (b) Describe in detail about the design of tanker lorries.

17. (a) Elaborately discuss about the operation of motor trucks.

Or

- (b) Briefly discuss the factors for improving safety on roads.

18. (a) Name the driver cabin slogans and describe in detail about fleet accident frequency.

Or

- (b) What is the driver safety program? And elaborately discuss about it.

19. (a) Explain the traffic control lines in detail.

Or

- (b) Describe safety practices and their insurance with relevant information.

20. (a) Briefly discuss the control measures and handling of gasoline.

Or

- (b) Explain mechanical handling equipment operations and manual handling equipment operations.
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**C-2520**

**Sub. Code**

**70127**

**M.Sc. DEGREE EXAMINATION, APRIL 2024.**

**Second Semester**

**Industrial Safety And Hygiene**

**HOUSE-KEEPING MANAGEMENT**

**(2023 onwards)**

Duration : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the questions.

1. Which department receives orders to deliver food and beverages to the guests' rooms?
  - (a) Food and Beverage
  - (b) Room Service
  - (c) Front Office
  - (d) Housekeeping
  
2. Which one of the following is a record of financial transactions taking place between a guest and the hotel?
  - (a) Folios
  - (b) Ledgers
  - (c) Guest accounts
  - (d) Vouchers
  
3. If a hotel accepts more bookings than the hotel can accommodate for a particular period, it is known as:
  - (a) Occupation
  - (b) Upselling
  - (c) Overbooking
  - (d) Reservations

4. The hotels are rated according to the
  - (a) Staff qualification
  - (b) Ownership
  - (c) Location
  - (d) Facilities on offer
5. The department normally responsible for servicing rooms
  - (a) Porterage
  - (b) Maintenance
  - (c) Housekeeping
  - (d) Reception
6. A hotel room with all guest rooms occupied is called.
  - (a) Green House
  - (b) Houseful
  - (c) Full House
  - (d) None of these
7. Wholesalers, in the parlance of the Tourism Industry is
  - (a) Travel agency
  - (b) Hotel
  - (c) Tour operator
  - (d) Airline
8. Leisure, Business and Home-based are the three main types of what?
  - (a) Tour Operators
  - (b) Travel Agents
  - (c) Resorts
  - (d) Hotels
9. A guest who comes to the hotel without prior Reservation for a guest room is called as:
  - (a) Walking
  - (b) Walk in
  - (c) In house guest
  - (d) Company guest
10. The goods or services that can't be stored for future use or have a short usage life is termed as
  - (a) Intangibility
  - (b) Variability
  - (c) Perishability
  - (d) Inseparability



**Part B**

(5 × 5 = 25)

Answer **all** the questions.

11. (a) Discuss the importance of housekeeping.

Or

- (b) What is the organizational chart? Explain it.

12. (a) Define polishing and explain the polishing procedure.

Or

- (b) List the materials required for the housekeeping department to do their work perfectly and shortly discuss the deodorants.

13. (a) What are floorings? Briefly discuss thermoplastic floorings.

Or

- (b) Explore the need for daily, weekly and spring cleaning.

14. (a) State the importance of laundry work and linen room cleaning.

Or

- (b) List the rules for linen purchase and inspection.

15. (a) How to do pest control and eradication?

Or

- (b) Safety security – discuss shortly.

**Part C**

(5 × 8 = 40)

Answer **all** the questions.

16. (a) Explore the duties and responsibilities of housekeeping employees.

Or

- (b) What is hospitality? How important is it to collect personal information from guests in the hospitality industry?

17. (a) Describe the following:

- (i) vacuum cleaner and  
(ii) box sweeper.

Or

- (b) Briefly discuss the uses of housekeeping equipment and its caring methods of it.

18. (a) Elaborately discuss the importance of cleaning guest rooms and baths.

Or

- (b) Explain in detail about the housekeeper's report with relevant information.

19. (a) Discuss the uses of laundry agents.

Or

- (b) Briefly discuss about the selection and buying of linen.

20. (a) How do I permanently get rid of cockroaches in my house and what is the pest control for cockroaches?

Or

- (b) Explore the methods of controlling furniture beetles and explain the protection methods.