C–6955

Sub. Code
70111

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

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** questions.

1. What fire safety system is installed at strategic locations to provide a water source for firefighting?

   (a) Staircase (b) Hydrant

   (c) Checklist (d) IR flame

2. Which shape represents the four elements required for fire to occur?

   (a) Explosion pentagon

   (b) Tetrahedron

   (c) ATT

   (d) Sensors

3. What type of fire suppression agent is commonly used for electrical fires?

   (a) CO_2 (b) Flammable

   (c) Water (d) Chemical

4. What is the term for a sudden, violent burst caused by a pressurised liquid turning into vapour?

(a) BLEVE (b) Explosion pentagon

(c) Pumping (d) Detectors

5. What firefighting equipment delivers water through flexible tubing for direct use?

(a) Hose reels (b) Manual call points

(c) IR flame (d) ATT

6. Which safety component detects fire hazards through heat, smoke, or gas?

(a) Sensors (b) Warehouse

(c) Pumping (d) Refilling

7. What is a common location for large-scale storage of flammable materials?

(a) Warehouse (b) Terrace tank

(c) Tetrahedron (d) Checklists

8. What process is necessary to maintain fire extinguishers in working condition?

(a) Refilling (b) Explosion pentagon

(c) Staircase (d) Detectors

9. What is an essential element in the fire triangle. necessary for combustion?

(a) Flammable (b) CO_2

(c) Water (d) Sensors

10. Which system is used to distribute water at high pressure for firefighting purposes?

(a) Pumping (b) Manual call points

(c) Chemical (d) Hydrant

Part B (5 × 5 = 25)

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

11. (a) Explain the physical properties that influence fire behavior.

Or

(b) Compare and contrast the different modes of heat transfer in fire spread.

12. (a) Classify hazards based on fire risk and provide examples.

Or

(b) Discuss the factors influencing the selection and placement of fire extinguishers in a building.

13. (a) Describe the working principle of an optical smoke detector and its applications.

Or

(b) Explain how a UV flame detector operates and where it is commonly used.

14. (a) Illustrate the components and working of a hydrant system in fire protection.

Or

(b) Analyze the function of underground static tanks in firefighting systems.

15. (a) Differentiate the types of fire escapes and their importance in emergency situations.

Or

(b) Define occupant load and explain its role in fire safety planning.

Part C (5 × 8 = 40)

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

16. (a) Explain the chemical properties of fire and their role in combustion.

Or

(b) Compare and contrast flash point and fire point, and analyze their significance in fire safety.

17. (a) Describe the procedure for inspecting a fire extinguisher and the key parameters to check.

Or

(b) Discuss the importance of spare parts in maintaining fire extinguishers and their replacement criteria.

18. (a) Explain the working principle of manual call points and their placement in fire alarm systems.

Or

(b) Analyze the types and functionality of heat detectors in fire detection.

19. (a) Describe the components and functions of fire pumps and hoses in firefighting operations.

Or

(b) Explain the purpose and operation of a fire service inlet in building fire protection.

20. (a) Identify common hazards in fire safety and propose effective prevention measures.

Or

(b) Discuss the proper storage and handling of combustible liquids to minimize fire risks.

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C–6956

Sub. Code
70112

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Industrial Safety and Hygiene

SAFETY EQUIPMENTS AND PPE

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which PPE is used to protect against airborne contaminants?

   (a) Eye (b) Respirator

   (c) Shoe (d) Checklist

2. What protects workers from falling objects or debris?

   (a) Safety net (b) Protection cream

   (c) Canister (d) Ventilation

3. A _____ should be used to prevent slips, trips, and falls while climbing.

   (a) Machine guard (b) Housekeeping

   (c) Ladder (d) Smoke

4. Which body part is protected by wearing safety goggles?

   (a) Skin (b) Eye

   (c) Shoe (d) Signboards

5. What safety measure is essential for controlling workplace noise exposure?

(a) Leg (b) Noise

(c) Hazard (d) Canister

6. _____ helps remove contaminants from the air in confined spaces.

(a) Ventilation (b) Oxygen

(c) Fall arrester (d) Ladder

7. Which is applied to the skin to prevent chemical exposure?

(a) Housekeeping (b) Eye

(c) Protection cream (d) Safety net

8. A ———————— helps in identifying and eliminating workplace risks.

(a) Hazard (b) Checklist

(c) Signboards (d) Machine guard

9. Which equipment is used for foot protection in hazardous work areas?

(a) Shoe (b) Canister

(c) Smoke (d) Storage

10. What prevents workers from falling while working at heights?

(a) Checklist (b) Fall arrester

(c) Storage (d) Eye

Part B (5 × 5 = 25)

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

11. (a) Explain the importance and purpose of PPE in workplace safety.

Or

(b) Describe the different types of head protection and their applications.

12. (a) Discuss the role of gloves in hand protection and their classification.

Or

(b) Outline emergency measures to be taken in case of hand injuries.

13. (a) Introduce skin protection and its significance in hazardous work environments.

Or

(b) Identify the major causes of skin injuries in industrial settings.

14. (a) Explain the working principle and use of a breathing apparatus.

Or

(b) Describe the key factors in selecting appropriate respiratory PPE.

15. (a) Discuss the essential components of a fall protection system.

Or

(b) Summarize the national standards and regulations related to PPE.

Part C

(5 × 8 = 40)

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

16. (a) Explain the different types of construction safety equipment and their significance.

Or

(b) Analyze the potential hazards that can affect the eye and how to mitigate them.

17. (a) Discuss the importance of feet protection and the types of safety footwear available.

Or

(b) Explain the role of guards in protecting the leg and hand in industrial settings.

18. (a) Identify the physical hazards that cause skin injuries and their impact on workers.

Or

(b) Describe the preventive measures to minimize skin injuries in workplaces.

19. (a) Examine harmful contaminants that affect respiration and their health consequences.

Or

(b) Explain the working mechanism and applications of air-purifying respirators.

20. (a) Discuss the key responsibilities of management in ensuring workplace safety.

Or

(b) Analyze the risks involved in working at heights and the required safety.

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C–6957

Sub. Code
70113

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

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 symbol is used for hazardous chemicals in transportation and storage?

   (a) CLP Hazard (b) HAZCHEM

   (c) WHMS (d) CPR

2. What classification system identifies chemical hazards in the EU?

   (a) HAZCHEM (b) CPR

   (c) CLP Hazard (d) WHMS

3. What term represents the lethal concentration of a chemical for 50% of a test population?

   (a) LC50 (b) CLP Hazard

   (c) WHMS (d) Overload relay

4. What is a closed path in which electric current flows?

(a) Voltage (b) Current

(c) Circuit (d) Transformer

5. What term represents the electrical potential difference?

(a) Voltage (b) Power

(c) Current (d) Induction

6. What flows through a conductor when voltage is applied?

(a) Earthing (b) Current

(c) Insulation (d) Circuit

7. What is the product of voltage and current?

(a) Transformer (b) Induction

(c) Power (d) Circuit

8. What device is used to change voltage levels in an electrical system?

(a) Transformer (b) Capacitor

(c) Circuit (d) Earthing

9. What term describes any substance used in a chemical reaction?

(a) Chemical (b) Gas

(c) Capacitor (d) CPR

10. What is a state of matter that expands to fill its container?

(a) Insulation (b) Chemical

(c) Gas (d) Transformer

Part B

(5 × 5 = 25)

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

11. (a) Explain the significance of current in electrical circuits and its potential hazards.

Or

(b) Compare voltage levels in household and industrial applications.

12. (a) Identify primary electrical hazards and discuss prevention measures.

Or

(b) Describe the causes and consequences of electrical energy leakage.

13. (a) Discuss the role of equipment grounding in electrical safety.

Or

(b) Explain the function of overload relays and their importance in circuit protection.

14. (a) Analyze the risks associated with chemicals in industrial environments.

Or

(b) Identify common physical hazards in chemical handling and mitigation strategies.

15. (a) Describe the classification of hazardous chemicals based on safety regulations.

Or

(b) Explain the principles of green chemistry and its impact on sustainability.

Part C (5 × 8 = 40)

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

16. (a) Explain the relationship between power and resistance in electrical circuits with examples.

Or

(b) Describe the working principle of capacitors and their role in electrical systems.

17. (a) Classify different types of insulation and explain their applications in electrical safety.

Or

(b) Discuss voltage classification and its importance in electrical power distribution.

18. (a) Explain the function of a miniature circuit breaker and compare it with a fuse.

Or

(b) Describe electrical guarding techniques and their role in preventing accidents.

19. (a) Explain the importance of proper labelling of chemicals and its impact on workplace safety.

Or

(b) Discuss the structure and significance of Safety Data Sheets (SDS) in chemical management.

20. (a) Explain the necessity of inventory and tracking of chemicals in industries.

Or

(b) Describe the regulations and best practices for the safe transportation of chemicals.

C–6958

Sub. Code
70114

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Industrial Safety and Hygiene

SAFETY CONCEPTS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. The condition of being protected from or unlikely to cause danger is called:
   (a) Training (b) Safety
   (c) Policy (d) Cost

2. A document outlining an organization's intentions regarding safety is called:
   (a) Poster (b) Awareness
   (c) Policy (d) Audit

3. The process of helping workers identify hazards in their tasks is known as:
   (a) Job safety (b) Survey
   (c) Competition (d) Seminar

4. A visual display used to promote safety messages is called a:
   (a) Poster (b) Cost
   (c) Pledge (d) Audit

5. Professionals giving expert safety advice are called:

(a) Seminar (b) Consulting

(c) Supervisors (d) Awareness

6. A formal educational session to enhance safety knowledge is called:

(a) Pledge (b) Poster

(c) Seminar (d) Quality

7. A planned' event that motivates workers toward safe behavior is a:

(a) Training (b) Incident rate

(c) Competition (d) Audit

8. A safety performance metric that reflects both severity and frequency is:

(a) Safe T score (b) Frequency rate

(c) Awareness (d) Survey

9. A metric showing the number of incidents per a set number of working hours:

(a) Incident rate (b) Cost

(c) Safety Committee (d) Quality

10. The financial impact of workplace incidents is measured as:

(a) Policy (b) Cost

(c) Productivity (d) Seminar

Part B (5 × 5 = 25)

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

11. (a) Explain the objectives and outcomes of a typical industrial safety movement.

Or

(b) Summarize the key stages in the evolution of modern safety concepts.

12. (a) Describe the purpose and scope of conducting a safety audit in a workplace.

Or

(b) Illustrate the methodology involved in performing a safety audit.

13. (a) Define the concept of an accident and identify its essential elements.

Or

(b) Outline the procedure for reporting an accident to the authorities.

14. (a) Calculate the frequency rate for workplace accidents with a given dataset.

Or

(b) Analyze how the Safe T score reflects safety performance.

15. (a) Justify the importance of training in enhancing workplace safety.

Or

(b) Explain the process for identifying training needs in an industrial setup.

Part C (5 × 8 = 40)

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

16. (a) Evaluate methods used for assessing the permanence of disabilities after accidents.

Or

(b) Analyze the process and significance of safety sampling in industrial settings.

17. (a) Design a comprehensive audit checklist for evaluating workplace safety.

Or

(b) Critically review inspection findings and suggest improvements.

18. (a) Classify different types of workplace accidents with suitable examples.

Or

(b) Describe the key steps in conducting an effective accident investigation.

19. (a) Differentiate between temporary total disabilities and other injury classifications.

Or

(b) Interpret accident statistics using frequency, severity, and incidence rates.

20. (a) Compare various training methods used in industrial safety programs.

Or

(b) Propose strategies for promoting safety culture across an organization.

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C–6959	Sub. Code 70116A

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025.

First Semester

Industrial Safety and Hygiene

ENVIRONMENTAL SAFETY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which gas is primarily responsible for ozone layer depletion?

   (a) Methane (b) CFC

   (c) CO_2 (d) SO_2

2. Which greenhouse gas is emitted from landfills and livestock?

   (a) CFC (b) Methane

   (c) Nitrogen (d) Ozone

3. Which of the following is a non-renewable energy source?

   (a) Wind (b) Solar

   (c) Coal (d) Geothermal

4. Which is a major source of oil pollution in oceans?

   (a) Petroleum (b) Coal

   (c) Methane (d) CFC

5. Which industry discharges high chromium content in effluents?

(a) Textile (b) Tanneries

(c) Paper (d) Food

6. Which device is used to measure acidity or alkalinity of water?

(a) Turbidity meter

(b) Barometer

(c) pH meter

(d) Flow meter

7. What type of pollution is associated with nuclear accidents?

(a) Thermal (b) Sound

(c) Radiation (d) Solid

8. Which facility is a potential source of radioactive waste?

(a) Thermal power

(b) Nuclear plant

(c) Hydel power

(d) Solar farm

9. Which of the following is a method of waste management?

(a) Dumping

(b) Incineration

(c) Recycle

(d) Burning

10. Which gas protects the Earth from harmful UV radiation?

(a) Ozone (b) CO_2

(c) Methane (d) Nitrogen

Part B (5 × 5 = 25)

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

11. (a) List the physical and chemical properties of common air pollutants.

Or

(b) Explain how air pollution impacts plant and aquatic ecosystems.

12. (a) State the effluent quality standards for industrial discharge.

Or

(b) Describe the types of water pollutants discharged from chemical industries.

13. (a) Identify different types of hazardous waste with examples.

Or

(b) Classify hazardous waste based on original and toxicity.

14. (a) Illustrate the working principle of a dust monitoring device.

Or

(b) Demonstrate particle size analyzers are used in pollution control.

15. (a) Analyze the major sources and effects of industrial pollution.

Or

(b) Evaluate the pollution control measures used in cement industries.

Part C (5 × 8 = 40)

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

16. (a) Classify different types of pollutants and explain their sources.

Or

(b) Analyze the causes and effects of automobile pollution in urban areas.

17. (a) Evaluate the environmental impact of textile industry effluents.

Or

(b) Explain the step-by-step waste treatment procedure followed in tanneries.

18. (a) Discuss the role of technology in efficient waste collection systems.

Or

(b) Analyze challenges in the handling and disposal of solid waste.

19. (a) Describe the working and application of a lux meter in environmental safety.

Or

(b) Summarize major pollution control laws in India and their implementation.

20. (a) Assess pollution control strategies in the petroleum industry.

Or

(b) Propose a sustainable waste management plan for the textile industry.

C–6960

Sub. Code
70116B

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

Industrial Safety and Hygiene

WORK STUDY AND ERGONOMICS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. The systematic examination of human work for improvement is known as:
   (a) Ergonomics (b) Work
   (c) Training (d) Inspection

2. The science that studies human body function and its impact on work:
   (a) Risk factor (b) Physiology
   (c) Fatigue (d) Breakdown

3. The design principle that emphasizes comfort, efficiency and safety:
   (a) Work (b) Supervision
   (c) Ergonomics (d) Penalties

4. Long working hours without rest may lead to:
   (a) Safe usage (b) Vigilance
   (c) Fatigue (d) PQS

5. A safety measure used to minimize hazards to workers physically:

(a) PPE (b) Training

(c) Inbuilt (d) Machine layout

6. Continuous observation and direction of work processes refer to:

(a) Machine layout

(b) Supervision

(c) Safe design

(d) Risk factor

7. Measures provided within a system or equipment for safety are called:

(a) Inbuilt (b) Ergonomics

(c) Fatigue (d) Penalties

8. Organizing equipment and stations in optimal order improves:

(a) Machine layout (b) Supervision

(c) PQS (d) Breakdown

9. Shields or barriers on machines to protect users are part of:

(a) Machine Guarding (b) PPE

(c) Study (d) Vigilance

10. A planned process to educate workers on procedures and hazards:

(a) Training

(b) Concept modules

(c) Fatigue

(d) Risk factor

Part B (5 × 5 = 25)

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

11. (a) Explain the objectives and methodology used in analyzing industrial operations.

Or

(b) Illustrate how structured procedures enhance productivity in manufacturing.

12. (a) Apply ergonomic principles to improve workstation design in an assembly unit.

Or

(b) Analyze the effectiveness of different layouts used for electric panels in factories.

13. (a) Evaluate the importance of selecting appropriate protective equipment in hazardous environments.

Or

(b) Classify various personal protective equipment with suitable examples.

14. (a) Design a systematic process flow for optimizing a packaging line.

Or

(b) Develop a suitable equipment design for minimizing operator fatigue.

15. (a) Identify and analyze major risk factors associated with repetitive jobs.

Or

(b) Compare individual health-based risks in manual vs. semi-automated tasks.

Part C (5 × 8 = 40)

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

16. (a) Explain the importance of integrating safety with method study in industrial environments.

Or

(b) Describe how workplace movements can be optimized to reduce effort and time.

17. (a) Analyze the design considerations for creating efficient and safe work platforms.

Or

(b) Discuss the impact of physical strain and fatigue on worker performance.

18. (a) Identify the criteria for selecting appropriate personal protective equipment.

Or

(b) Illustrate how invisible protective barriers contribute to workplace safety.

19. (a) Justify the selection of instruments based on task precision and safety needs.

Or

(b) Explain the role of concept modules in training and safety planning.

20. (a) Evaluate the relevance of established standards in designing man-machine systems.

Or

(b) Compare the factors influencing the effective selection of man-machine combinations.

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C–6961	Sub. Code 70121

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025.

Second Semester

Industrial Safety and Hygiene

CONSTRUCTION SAFETY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which safety measure is crucial for Preventing falls while Working at heights?

   (a) Guardrail (b) Helmet

   (c) Goggles (d) Shoes

2. What is the minimum height at which fall protection is required in contraction in feet?

   (a) 2 (b) 4

   (c) 6 (d) 8

3. Which of the following is a common hazard associated with construction machinery?

   (a) Moving parts (b) Noise

   (c) Lighting (d) Speeding

4. What safety measure should be taken to Prevent accidents with construction machinery?

(a) Maintenance (b) Inspection

(c) Documenting (d) All of the above

5. During demolition work Which of the following is essential to ensure safety?

(a) Proper planning (b) Fastening work

(c) Ignoring hazards (d) No execution plan

6. Which hazard is most likely to occur during demolition work?

(a) Electrical shock (b) Flooding

(c) Air pollution (d) Structural collapse

7. Which safety equipment is essential for Protecting hands from cuts, abrasions and chemical?

(a) Hand gloves (b) Sleeves

(c) Wristguard (d) All of the above

8. What should be done when any minor injuries occur?

(a) First Aid (b) Carrying

(c) Switching off (d) Haul the Work

9. Which agency defines the safety standards for construction works?

(a) OSHO (b) ASTM

(c) SAE (d) ASME

10. Indian standard of demolition work passes on which year/?

(a) 2000 (b) 1955

(c) 2020 (d) 1991

Part B

$(5 \times 5 = 25)$

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

11. (a) Explore the causes of accidents related to construction of educational buildings.

Or

(b) Shortly discuss about quality assurance in construction.

12. (a) Distinguish basement and wide excabvation.

Or

(b) Mention the possible hazards in power plant construction and discuss the prevention methods.

13. (a) Write short notes on safe use of ladders.

Or

(b) Narrate the uses of safety belts in construction.

14. (a) How do the inspection and testing for hoisting cranes.

Or

(b) Define welding and list the application of welding in construction industry.

15. (a) State the importance of first aid.

Or

(b) Write short notes on safe clearance zone.

Part C

$(5 \times 8 = 40)$

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

16. (a) Explain the factors associated with the construction accidents and mention the prevention methods.

Or

(b) Elaborately discuss the need for and significance of education and training in construction.

17. (a) Briefly discuss about erection of structural frame work.

Or

(b) What is contaminated site and identify the contamination hazards discuss the prevention method?

18. (a) Describe the detail about fall prevention and fall protection.

Or

(b) Elaborately discuss about manual handling methods in construction.

19. (a) Briefly discuss the following (i) concrete mixers (ii) concrete vibrators.

Or

(b) Name the portable electrical tools and elaborately discuss the uses of it in construction work.

20. (a) Explore the need for and significance of site supervision.

Or

(b) Briefly discuss the fire hazards and preventing methods.

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C–6962

Sub. Code
70122

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

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** questions.

1. In which year was the Forest Conservation Act passed?

   (a) 1980

   (b) 1988

   (c) 1990

   (d) 2000

2. How many Ramsar Sites have been declared so far in India?

   (a) 61

   (b) 84

   (c) 55

   (d) 200

3. In which year was the Environment Protection Act passed?

(a) 1996

(b) 1986

(c) 1997

(d) 1956

4. Kyoto Protocol is related to _____

(a) Global warming

(b) Pollution

(c) Resource

(d) Population

5. In which year India launched its second edition of the National Forest Policy?

(a) 1945

(b) 1973

(c) 1960

(d) 1988

6. The building and construction workers Act

(a) 1996

(b) 1888

(c) 1954

(d) 2021

7. Indian Boiler Act

(a) 1945

(b) 1923

(c) 2000

(d) 2020

8. Hazardous Waste rules

(a) 1970

(b) 1950

(c) 1989

(d) 2010

9. Mines Act

(a) 1960

(b) 1952

(c) 1990

(d) 2000

10. Biomedical Waste (Management and Handling Rules)

(a) 1995

(b) 2000

(c) 1989

(d) 2005

Part B (5 × 5 = 25)

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

11. (a) Define safety. and shortly discuss about statutory authorities.

Or

(b) What are all the penalties in the Factories Act 1948?

12. (a) Explore the handling of biomedical waste.

Or

(b) Write short notes on the prevention and control of air pollution.

13. (a) Name the toxic chemical and discuss its handling methods.

Or

(b) Differentiate offsite and onsite plans.

14. (a) Shortly discuss the Mines Act 1952.

Or

(b) What are petroleum rules?

15. (a) When do we need to apply international acts and standards?

Or

(b) ISO 14000 - discuss shortly.

Part C

(5 × 8 = 40)

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

16. (a) Elaborately discuss the employment of young people.

Or

(b) Briefly discuss about Tamil Nadu factories rules 1950 under safety.

17. (a) Describe in detail the Air Act 1981 and Water Act 1974.

Or

(b) Explain in detail about the Environment Act 1986.

18. (a) Explore the powers and duties of the local authorities.

Or

(b) What is a safety report? And briefly discuss its need and importance.

19. (a) Describe in detail the Indian Boiler Act 1923.

Or

(b) Explain the building and other construction workers Act 1996.

20. (a) Briefly discuss about HASAWA 1974, UK.

Or

(b) Describe in detail about ANSI.

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C–6963

Sub. Code
70123

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Second Semester

Industrial Safety and Hygiene

INDUSTRIAL HYGIENE – I :
HAZARD IDENTIFICATION AND ASSESSMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is not a chemical-related health hazard?

   (a) Carcinogenicity (b) Reactivity

   (c) Corrosivity (d) Toxicity

2. If you wanted to convey the most severe type of hazard, which word would you use?

   (a) Warning (b) Notice

   (c) Danger (d) Caution

3. OSHA prohibits working on a scaffold in the presence of winds above _____ mph

   (a) 10 (b) 20

   (c) 30 (d) 40

4. _____ is defined as the study of how people work in their environment.

(a) Hazard (b) Ergonomics

(c) Risk (d) Impact

5. _____ is any source of potential damage, harm or adverse health effects on something or someone.

(a) Risk (b) Responsibility

(c) Work (d) Hazard

6. OSHA restricts ladders from being higher than _____ ft.

(a) 20 (b) 15

(c) 12 (d) 10

7. Personal safety is an individual's _____ ability to go about their everyday life free from the threat or fear of harm from others.

(a) Chemical (b) Psychological

(c) Economic (d) None of the above

8. Chemicals enter the body through direct contact with the _____ or eyes.

(a) Nose (b) Ear

(c) Skin (d) Leg

9. _____ into the bloodstream may then allow the chemical to cause toxic effects on other parts of the body.

(a) Absorption (b) Absorber

(c) Sensitive (d) Effective

10. Over may include headaches, increased mucus production and eye, nose and throat irritation.

(a) Exposure (b) Knowledge

(c) Skill (d) Effort

Part B (5 × 5 = 25)

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

11. (a) What is cell structure?

Or

(b) Name the sense organs and mention their functions.

12. (a) Define Industrial Hazard.

Or

(b) Identify the uses of local exhaust ventilation.

13. (a) Write short notes on Irriants.

Or

(b) Define exposure limit. What are the permissible limits of industrial hygiene?

14. (a) List the factors which affect the performance of physical tasks.

Or

(b) Mention the minimum requirements for workstations.

15. (a) Write short notes on HVAC.

Or

(b) When do we need to take neurological tests? and name the tests.

Part C

(5 × 8 = 40)

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

16. (a) What is the nervous system explain in detail about it?

Or

(b) List the part in the respiratory system in the human body and discuss its function.

17. (a) Elaborately discuss HIV symptoms and prevention methods.

Or

(b) Briefly discuss about hepatic disease.

18. (a) Elaborately discuss about metabolism.

Or

(b) Describe in detail about ACGGIH and HAZCHEM.

19. (a) Briefly discuss carpal tunnel syndrome.

Or

(b) Explain in detail about workplace risk assessment.

20. (a) What are analytical methods discuss them briefly with one example.

Or

(b) Elaborately discuss the types of blood tests.

———————

C–6964	Sub. Code 70124

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Second Semester

Industrial Safety and Hygiene

HAZARDOUS WASTE MANAGEMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Eco-toxicology is based on _____ of chemicals.

   (a) Chemical (b) Physical

   (c) Toxicological (d) Biological

2. Spent caustic from metal finishing is an example for _____ waste category.

   (a) Organic aqueous

   (b) Inorganic aqueous

   (c) Organic liquid

   (d) Organic sludge

3. A waste to be called toxic, acute inhalation LC5O concentration should be _____ppm.

   (a) 2200 (b) 4300

   (c) 2400 (d) 10000

4. Toxicity _____ is an interpretation tool that enables toxicity of unknown mixtures of chemicals to be converted into the concentration of an equivalently toxic reference substance.

(a) Equivalencing (b) Index

(c) Proportion (d) Interpretation

5. The toxicological endpoint for the dose-response relationship should be ————————.

(a) Definitive (b) Vague

(c) Irrational (d) Less

6. The severity of toxic exposure on an individual depends on _____.

(a) Age and health (b) Genetics

(c) Dose (d) Diet

7. Characteristic of organic liquid waste is _____.

(a) Derived oil

(b) Organic aqueous

(c) Inorganic aqueous

(d) Organic liquid

8. Which toxicity test is preferable to determine the acute or chronic toxicity of air, water and wastewater discharges or total pollutant loads?

(a) Indirect toxicity (b) Direct toxicity

(c) Chemical (d) High toxicity

9. The sum of the risk of each individual chemical is _____ pathway risk.

(a) Total (b) Simple

(c) Negative (d) Complex

10. If the MDD from the target population is smaller than the RfD, the exposure is considered relatively _____

(a) Safe (b) Unsafe

(c) Permissible (d) Accident

Part B (5 × 5 = 25)

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

11. (a) List the sources of hazardous wastes.

Or

(b) What are electronic wastes?

12. (a) State the physical properties of solid wastes.

Or

(b) Write short notes on the reuse of waste.

13. (a) State the need for transport.

Or

(b) Enumerate the importance of labelling the wastes.

14. (a) Mention the objective of waste processing.

Or

(b) Explore the essential healthcare facilities.

15. (a) How do you design sanitary landfills?

Or

(b) State the five stages of landfill.

Part C

(5 × 8 = 40)

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

16. (a) Briefly discuss the methods of handling municipal solid wastes.

Or

(b) What are all nuclear wastes? Briefly discuss the management of nuclear wastes.

17. (a) Elaborately discuss the waste generation rates.

Or

(b) Describe TCLP tests.

18. (a) How does the waste be segregated at the source? Discuss briefly.

Or

(b) Explore the storage methods of hazardous wastes.

19. (a) Elaborately discuss the thermal conversion technologies in waste processing.

Or

(b) Explain the treatment of biomedical wastes.

20. (a) Classify landfills and briefly discuss the methods:

Or

(b) Briefly discuss the rehabilitation of open dumps.

———————

C–6965

Sub. Code
70126A

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

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 spinning method is known for its high production rate and low labour
   (a) Ring (b) Open-end
   (c) Air-jet (d) Friction

2. Which of the following is a natural fibere used in yarn manufacturing?
   (a) Rayon (b) Acrylic
   (c) Hemp (d) Nylon

3. Which type of Yarn is produced by blending two or more different types of fibers?
   (a) Blended (b) Staple
   (c) Core-Spun (d) Filament

4. Which spinning method uses compressed air to spin the fibers into Yarn?
   (a) Ring (b) Open-end
   (c) Air-jet (d) Friction

5. Which Yarn manufacturing process involves the creation of loops in the yarn structure?

(a) Texturing (b) Carding

(c) Blending (d) Twisting

6. Which process involves adding lubricants to the Yarn to reduce friction during weaving?

(a) Carding (b) Twisting

(c) Sizing (d) Combing

7. Which of the following fibers is synthetic in nature?

(a) Linen (b) Viscose

(c) Nylon (d) Jute

8. What is the process of joining fabric pieces together using stitches called?

(a) Cutting (b) Knitting

(c) Sewing (d) Weaving

9. Which fibre is popularly called 'Golden fibre'?

(a) Silk (b) Cotton

(c) Jute (d) Flax

10. Which one is the strongest weave?

(a) Plain (b) Twill

(c) Basket (d) Satin

Part B

$(5 \times 5 = 25)$

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

11. (a) Identify the uses of process flow charts.

Or

(b) Write short notes on rotor spinning.

12. (a) Mention the types of sizing techniques and discuss them shortly.

Or

(b) State the merits and demerits of non-woven fabrics.

13. (a) Name the chemicals used in scouring and briefly discuss the scouring process.

Or

(b) What are the significant hazards of the textile industry?

14. (a) Shortly, discuss the possible health hazards in the textile industry due to noise generated in textile processing industries.

Or

(b) Define occupational diseases and mention the types of occupational diseases.

15. (a) What are the factories' acts applicable to the textile industry in India?

Or

(b) Write short notes on the present safety status in the textile industry.

Part C $(5 \times 8 = 40)$

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

16. (a) Jute spinning and jute fabric manufacture — discuss briefly.

Or

(b) Explain the process of converting Yarn to fabric and mention its merits and demerits.

17. (a) Define loom, mention the loom types, and explain to one with relevant data.

Or

(b) Elaborately discuss the causes and prevention of hazards due to cooking vessels.

18. (a) Describe in detail about Bleaching and Punting.

Or

(b) Enumerate the dyeing process and mention the advantages of it.

19. (a) Briefly discuss the health hazards in the textile industry due to flies. And mention the control measures of it.

Or

(b) PPE for textile industries — explain with necessary data.

20. (a) Briefly discuss about the effluent treatment

Or

(b) Explain waste disposal in the textile industry in detail.

———————

C–6967

Sub. Code
70127

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Second Semester

Industrial Safety and Hygiene

HOUSEKEEPING MANAGEMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Section A (10 × 1 = 10)

Answer **all** questions.

1. Which type of loading involves cleaning rooms as they become vacant?

   (a) Full (b) Staggered

   (c) Discharge (d) Partial

2. Which cleaning method is suitable for marble floors?

   (a) Sweeping (b) Acid cleaning

   (c) Dry vacuuming (d) Wet mopping

3. Which pest is commonly found in hotel kitchens and requires regular pest control measures?

   (a) Bed bugs (b) Ants

   (c) Cockroaches (d) Mice

4. Which equipment is necessary for polishing floors?

   (a) Mop (b) Floor buffer

   (c) Broom (d) Duster

5. Which pest control method is most effective for bed bugs in hotel rooms?

(a) Vacuuming (b) Heat treatment

(c) Ignoring (d) Broom

6. What should be done with dirty linens collected from guest rooms?

(a) Discard them (b) Store them

(c) Send laundry (d) None of the above

7. What is the main purpose of housekeeping training programs?

(a) Reducing staff

(b) Increasing costs

(c) Impressing guests

(d) High cleaning efficiency

8. Which type of housekeeping equipment is used for deep cleaning carpets and removing embedded dirt?

(a) Floor buffer (b) Steam cleaner

(c) Mop (d) Broom

9. Which method is recommended for cleaning upholstered furniture in hotel rooms?

(a) Broom (b) Wet mopping

(c) Vacuuming (d) Scrubbing

10. What is the purpose of using color-coded cleaning cloths in housekeeping?

(a) Decoration (b) Task overseeing

(c) Identify staff (d) None of the above

Section B (5 × 5 = 25)

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

11. (a) Enumerate the importance of housekeeping in the hospitality industry.

Or

(b) Mention the duties of housekeeping employees.

12. (a) List the uses of floor scrubbing and polishing machine.

Or

(b) Disinfectants — discuss shortly. Name few disinfectants most widely used.

13. (a) Classify cleaning methods and discuss any one method.

Or

(b) What are all the necessary things needs to be followed in cleaning of public restaurant.

14. (a) Name the laundry equipment and mention the advantages of it.

Or

(b) Write short notes on buying of LINEN.

15. (a) Eradication -discuss shortly.

Or

(b) Identify the need for and importance of security and what is safety security.

Section C (5 × 8 = 40)

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

16. (a) Explain the types of lodging establishments.

Or

(b) Elaborately discuss the necessity of personnel factor while dealing guest on a day to day basis.

17. (a) List the uses of soaps, deodorants and detergents.

Or

(b) Briefly discuss the containers trolley and chamber maid's trolley and its uses.

18. (a) Explain the cleaning of walls and wall coverings.

Or

(b) Explore the following :

(i) Food service

(ii) House keepers report.

19. (a) Briefly discuss the clean linen room and discuss linen room attendants.

Or

(b) Describe in detail about handling of guest laundry.

20. (a) Sudden fire happened at kitchen — briefly discuss the control methods.

Or

(b) How to deal theft at home and hotel. Discuss briefly.

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C–6968

Sub. Code
70131

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Industrial Safety and Hygiene

INDUSTRIAL HYGIENE II : EVALUATION AND CONTROL OF HAZARDS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What field focuses on the well-being of workers in their work environment?

   (a) Hygiene

   (b) Exposure limit

   (c) Occupational health

   (d) OSHA

2. What is the science of preserving health through cleanliness and hazard control?

   (a) Control (b) Hygiene

   (c) Training (d) Smoke

3. What method helps reduce airborne contaminants in enclosed spaces?

   (a) Ventilation (b) Radiation

   (c) OSHA (d) Stress

4. Which method involves separating hazardous processes to protect workers?

(a) Isolation (b) Assessment

(c) Fog (d) OSHA

5. What process helps manage and eliminate hazardous materials safely?

(a) Training (b) Waste disposal

(c) Exposure limit (d) Noise safety

6. What empowers workers with knowledge on hazard identification and response?

(a) Design (b) Training

(c) Acid fumes (d) Frequency

7. What step is vital before implementing hazard control strategies?

(a) Radiation (b) Assessment

(c) Fog (d) Safety

8. What stage in engineering helps build safer and healthier work environments?

(a) Design (b) OSHA

(c) Stress (d) Decibel

9. What psychological hazard results from workload imbalance and poor conditions?

(a) Radiation (b) Stress

(c) Smoke (d) Control

10. What general term includes practices and measures to prevent accidents?

(a) Safety (b) Fog

(c) Frequency (d) Training

Part B (5 × 5 = 25)

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

11. (a) List the common occupational diseases and prevention methods.

Or

(b) What are health records?

12. (a) Shortly discuss about EPA standards.

Or

(b) What is personal hygiene?

13. (a) List the training methods and discuss shortly about them.

Or

(b) What is promoting safety and safety?

14. (a) Write short notes on the Bureau of Indian Standards on safety.

Or

(b) Shortly discuss about OHSAS – 18001.

15. (a) Identify the source of the nose and state the control methods.

Or

(b) Define vibration and briefly discuss the vibration effects on the human body.

Part C (5 × 8 = 40)

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

16. (a) Briefly discuss about occupational Health and environmental safety management.

Or

(b) Explain the need for and importance of periodic medical examination of workers.

17. (a) Describe in detail about local exhaust ventilation.

Or

(b) Criticize the following :

(i) Wet method

(ii) Local exhaust Ventilation.

18. (a) Define training cycle and briefly discuss the elements of training cycle.

Or

(b) Explain in detail about occupational health hazards.

19. (a) Briefly discuss about EPA standards.

Or

(b) Explain in detail about the 14489-1998 standard.

20. (a) Define radiation. And explain the types and effects of radiation.

Or

(b) Distinguish between smoke and fog. & how it will affect human health.

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C–6969

Sub. Code
70132

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Industrial Safety and Hygiene

HAZARD AND RISK ANALYSIS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What term refers to a potential source of harm or adverse health effect?

   (a) HIRA (b) Hazard

   (c) Risk Matrix (d) Benefit

2. What is the probability and severity of harm from a hazard called?

   (a) Cost

   (b) Risk

   (c) Failure Tree Analysis

   (d) ALARP

3. What acronym represents reducing risk to a level that is tolerable?

   (a) ALARP (b) HAZAN

   (c) FMEA (d) Site Assessment

4. What system alerts workers before a danger becomes critical?

(a) Risk (b) Risk Matrix

(c) Warning system (d) Hazard

5. What process involves examining components and systems for potential hazards?

(a) HIRA (b) Analysis

(c) Case Study (d) Port Hudson

6. What factor often influences the implementation of risk controls?

(a) Cost (b) HAZOP

(c) Risk Control (d) Accident

7. What is the positive outcome expected from implementing safety controls?

(a) Risk (b) Benefit

(c) HAZAN (d) Feyzin disaster

8. What study method identifies risks in complex chemical processes?

(a) HAZOP (b) ALARP

(c) HIRA (d) Case Study

9. What technique estimates the probability of a hazard becoming an accident?

(a) FMEA (b) HAZAN

(c) Port Hudson (d) Bhopal

10. Which technique focuses on identifying failure modes and effects in systems?

(a) FMEA (b) HIRA

(c) Benefit (d) Risk

Part B (5 × 5 = 25)

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

11. (a) What is horseplay?

Or

(b) Define ALARP. And discuss the concept of ALARP shortly.

12. (a) Write short notes on risk analysis.

Or

(b) List the benefits of risk analysis.

13. (a) Shortly discuss about HAZAN.

Or

(b) List the types of FMEA and discuss with the necessary data.

14. (a) State the objectives of the HIRA study.

Or

(b) Criticize the purpose of the risk matrix in risk assessment and management.

15. (a) Identify the possibility of chemical accidents and suggest control methods.

Or

(b) Distinguish between quantitative and qualitative risk assessment.

Part C (5 × 8 = 40)

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

16. (a) Briefly discuss hazards and risks.

Or

(b) State the need for and importance of risk assessment and human error analysis.

17. (a) What is risk identification?

Or

(b) Describe in detail about job safety analysis.

18. (a) Explain – FMEA.

Or

(b) Describe in detail about Risk Priority Number.

19. (a) Briefly discuss about risk control method.

Or

(b) Explain the importance of specific site assessments in environmental and risk management.

20. (a) List the major causes and consequences of the Mexico Disaster.

Or

(b) Describe in detail the Port Hudson disaster.

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C–6970	Sub. Code 70133

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Industrial Safety and Hygiene

SAFETY AUDIT AND INSPECTION

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What is the physical location where safety audits and inspections are conducted?

   (a) Evidence (b) ISO 45001

   (c) Workplace (d) EMS

2. What process involves checking equipment, conditions or procedures for safety?

   (a) Assessment (b) Inspection

   (c) Objectives (d) Monitoring

3. What is prepared after an audit to summarize findings and recommendations?

   (a) Report (b) EMS

   (c) Follow up (d) Audit

4. What determines how often safety inspections or audits should be done?

(a) Evidence (b) Observation

(c) Frequency (d) OH & S policy

5. What step ensures corrective actions have been implemented after an audit?

(a) Follow up (b) EMS

(c) ISO 45001 (d) Audit

6. What continuous process tracks safety performance over time?

(a) Observation (b) Monitoring

(c) EIA (d) Report

7. What formal review evaluates safety complicance and systems?

(a) EMS (b) Audit

(c) Objectives (d) Eco labelling

8. What is the primary goal of inspections and audits?

(a) Safety (b) Report

(c) Frequency (d) Scope

9. What type of audit is conducted at the physical location of operations?

(a) Onsite (b) EIA

(c) EMS (d) Evidence

10. What supports findings in a safety audit and validates observations?

(a) OH and S policy (b) Evidence

(c) Objectives (d) Frequency

Part B (5 × 5 = 25)

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

11. (a) State the importance of workplace inspection.

Or

(b) Enumerate the need for the frequency of inspection.

12. (a) Mention the types of audits and discuss briefly.

Or

(b) What are post-audit activities?

13. (a) Shortly discuss about ISO 45001.

Or

(b) Narrate the scope of ISO 45001

14. (a) Explore the guidelines and principles of ISO 14004

Or

(b) Mention the merits and demerits of ISO14001.

15. (a) Distinguish Type I and Type II labels.

Or

(b) State the advantages of EIA in EMS.

Part C

(5 × 8 = 40)

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

16. (a) Describe in detail about workplace inspection report.

Or

(b) Briefly discuss the follow-up and monitoring in safety inspection.

17. (a) Explain the detail about the on-site activities.

Or

(b) Elaborately discuss the strengths and weaknesses of the management system.

18. (a) Explain worker participation.

Or

(b) What is the OH and S policy? Explain clauses 4.1 to 4.5

19. (a) Briefly discuss about environmental policy.

Or

(b) Explain in detail about the ISO 14000.

20. (a) Criticize the general principles of LCA and briefly discuss the Type II labels.

Or

(b) Describe in detail the rules for eco labelling and mention the merits and demerits.

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C–6971

Sub. Code
70134

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

Industrial Safety and Hygiene

SAFETY AT OIL, GAS AND NUCLEAR SECTOR

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which phase in the oil and gas industry involves exploration and drilling?

   (a) Core (b) Upstream

   (c) PPE (d) Reactor

2. What heavy metal is commonly used for shielding in nuclear facilities?

   (a) Heat (d) Lead

   (c) Markov method (d) FTA

3. What type of ionizing radiation is highly penetrating and emitted from radioactive materials?

   (a) Dose (b) Explosion

   (c) Gamma rays (d) Exposure

4. What is a common hazard in oil and gas sectors caused by gas leaks or ignition?

(a) Explosion (b) PPE

(c) Turbine (d) Upstream

5. Which major nuclear disaster occurred in 1986 in the Soviet Union?

(a) Three Mile Island (b) Chernobyl

(c) FTA (d) HAZOP

6. What mechanical equipment converts heat energy into mechanical energy in power plants?

(a) Control Rod (d) Core

(c) Turbine (d) PPE

7. What is worn to minimize worker exposure to hazards?

(a) FTA (b) PPE

(c) Gamma rays (d) Concrete wall

8. What is used as a physical barrier to contain radiation in nuclear plants?

(a) PPE (b) Concrete wall

(c) Explosion (d) Heat

9. What term refers to contact with harmful radiation or chemicals?

(a) Upstream (b) Exposure

(c) Control Rod (d) Dose

10. Which risk assessment tool is used in process industries to identify hazards?

(a) HAZOP (b) Markov method

(c) PPE (d) Core

Part B (5 × 5 = 25)

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

11. (a) Write short notes on midstream and downstream.

Or

(b) Distinguish between onshore and offshore.

12. (a) Shortly discuss about interface safety analysis.

Or

(b) State the need for and significance of a safety checklist.

13. (a) What is the offshore industrial risk picture?

Or

(b) What is the work permit system?

14. (a) Mention the major safety design principles adopted in nuclear reactors.

Or

(b) Narrate the significance of emergency preparedness.

15. (a) Write the principle of shielding and name the common shielding materials.

Or

(b) What is the exposure limit? Discuss shortly.

Part C (5 × 8 = 40)

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

16. (a) Classify product hazards and discuss them briefly it.

Or

(b) Explain in detail the reasons for human error occurrences and their consequences.

17. (a) Briefly discuss about failure mode of effective analysis.

Or

(b) Identify the uses of daily observation reports and discuss briefly about Markov analysis.

18. (a) Explain the importance of regular inspection of machinery.

Or

(b) Name the most common hazards in the oil and gas industry and suggest the prevention methods for them.

19. (a) Explain in detail about the reactor control and protection system.

Or

(b) Elaborately discuss about Chernobyl accident and its effects.

20. (a) Describe in detail about waste management.

Or

(b) Elaborately discuss about the radiation dose and dose measurements.

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C–6972	Sub. Code 70137

M.Sc. DEGREE EXAMINATION, NOVEMBER 2025.

Third Semester

Industrial Safety And Hygiene

FOOD HYGIENE AND SANITATION (HACCP)

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What ensures food is handled, prepared, and stored to prevent contamination?

   (a) Risk assessment (b) Food safety

   (c) WHO (d) HACCAP

2. What refers to measures taken to manage hygiene hazards in food systems?

   (a) HACCAP (b) Control

   (c) FDA (d) TQM

3. What international trade measures ensure food is safe and standards-based?

   (a) SPS and TBT (b) GAP

   (c) UDA (d) Regulation

4. What enforces legal food safety and hygiene rules?

   (a) Specifications (b) Regulation

   (c) AGMARK (d) BRC

5. What term describes the standard of excellence maintained in food products?

(a) HACCAP (b) Quality

(c) GVP (d) WHO

6. What management strategy focuses on continuous quality improvement?

(a) TQM

(b) Food safety

(c) GAP

(d) Control

7. What set of practices is specific to pharmaceutical product quality?

(a) GVP (b) ISI

(c) Risk assessment (d) FDA

8. What term refers to sustainable and safe practices in agriculture?

(a) GAP

(b) BRC

(c) WHO

(d) HACCAP

9. What evaluates the probability and severity of food hazards?

(a) Risk assessment (b) Specifications

(c) Food safety (d) TQM

10. What preventive approach identifies hazards and control points in food processes?

(a) HACCAP (b) FDA

(c) ISI (d) UDA

Part B (5 × 5 = 25)

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

11. (a) Define quality and state the need for and importance of quality control.

Or

(b) List the types of quality characteristics of food.

12. (a) Write short notes on safety in food services.

Or

(b) What is biological contamination in food and the food chain?

13. (a) What is GVP?

Or

(b) Write short notes on Risk Assessment.

14. (a) Criticize the following (i) WHO (ii) FDA.

Or

(b) State the role of international regulatory agencies.

15. (a) Discuss briefly the import and export of food in India.

Or

(b) List the importance of labelling in food products.

Part C (5 × 8 = 40)

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

16. (a) How to do the quality assessment for milk and meat.

Or

(b) Briefly discuss the sample and sampling methods of quality evaluation.

17. (a) Elaborately discuss the sources of contamination of food and narrate the importance of personal hygiene.

Or

(b) Describe in detail the prevention and control of foodborne hazards.

18. (a) Explain in detail about Total Quality Management (TQM)

Or

(b) Criticize the applications of HACCP in food safety.

19. (a) Briefly discuss the basic concepts of food standards.

Or

(b) Explain in detail about the ISO and its standards for food quality.

20. (a) Discuss the procedures and protocols of food safety and food alerts.

Or

(b) What is the FDA? And Explain in detail about the export-import policy in food safety.

———————