C–0642	Sub. Code
	30611

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

First Semester

Industrial Safety and Hygiene

SAFETY IN FACILITY DESIGN

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is electricity?

2. Give the hazards of acetylene.

3. What is safe layout?

4. What is fire hydrant?

5. Give the principles of good ventilation.

6. Give the principles of 5s.

7. Write the accessories for manual handling.

8. Define slinging.

9. Write about safety devices and brakes.

10. What are the types of drives?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) How to select plant locations?

Or

(b) Write about the land considerations.

12. (a) Explain the facilities for safe effluent disposal and treatment tanks.

Or

(b) Give the safe layout for process industries.

13. (a) Give the disadvantages of local exhaust ventilation.

Or

(b) Write about hood and duct design.

14. (a) How to store & handle cryogenic liquids?

Or

(b) Give the ergonomic considerations for fiber rope.

15. (a) Explain the operating principles of powered industries trucks.

Or

(b) Explain the types of cranes.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the lightining requirements for various works.

Or

(b) Write about steel strapping and sacking.

17. (a) Explain sheaves & drums.

Or

(b) Give the advantages of good illumination, glare and its effect.

18. (a) Explain electric trucks and gasoline trucks.

Or

(b) Write about man lifts, its construction, brakes and inspection.

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C–0643	Sub. Code
	30612

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

First Semester

Industrial Safety and Hygiene

WORK STUDY AND ERGONOMICS

(2019 Batch onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Ergonomics

2. Mention basic body mechanics

3. Define Attitude

4. What is the method to measure workers performance?

5. What are the two uses of ergonomics?

6. What is static work?

7. Mention two measure to prevent Wmsds.

8. How to design manual handling?

9. What is auditory display?

10. What is synthetic environment?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain briefly on posture and body mechanics.

Or

(b) Explain on anatomy of spine and MSD in work place.

12. (a) Write a short notes on fitting man to job.

Or

(b) Write a short notes on complexity of motivation.

13. (a) Write a short notes on principles of applied anthropometry in ergonomics.

Or

(b) Write a short notes on visual display units.

14. (a) Write shortly on Wmsds.

Or

(b) Write shortly on Anatomy and Biomechanics of Manual handling.

15. (a) Write shortly on posture stability.

Or

(b) Write a short note on design of display units.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain history of ergonomics.

Or

(b) Explain in brief on factors affecting human behaviour.

17. (a) Write shortly on Management theories on motivation.

Or

(b) Explain on fundamental aspects of standing and sitting ergonomics at work place.

18. (a) Explain on design of visual display and auditory display.

Or

(b) What is cognitive problem solving theory? Explain in brief with its stages.

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C–0644	Sub. Code
	30613

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

First Semester

Industrial Safety and Hygiene

SAFETY CONCEPTS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is safety?

2. Define safety planning.

3. Differentiate safety Inspection and Audit.

4. What is UA? UC?

5. Define reportable accident.

6. Give the purpose of accident investigation.

7. Define temporary total disability.

8. What is safety activity rate?

9. Give the importance of safety training.

10. Write the uses of safety posters.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain safety sampling.

Or

(b) Create a safety survey checklist.

12. (a) Explain types of audit.

Or

(b) Write the components of safety audit.

13. (a) Write the contents of accident investigation report.

Or

(b) Explain the principles of accident preventition.

14. (a) Explain FR and SR.

Or

(b) Write about IR and STS.

15. (a) Explain domestic safety and training.

Or

(b) Write about motivation and its types.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the role of safety committee.

Or

(b) Write about domino sequence.

17. (a) Explain audit methodology.

Or

(b) Write about job safety analysis.

18. (a) Write about cost of accidents.

Or

(b) Explain disaster control.

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C–0645	Sub. Code
	30614

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

First Semester

Industrial Safety and Hygiene

FIRE SAFETY – DESIGN, INSTALLATION AND MAINTENANCE

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Flash point and Fire point.

2. What is meant by auto-ignition?

3. What do you understand by Fire Triangle?

4. You cannot extinguish the fire of alcohol tank with water, Why?

5. Differentiate between flammable and highly inflammable liquids.

6. List out the difference between mechanical foam and chemical foam.

7. Define Fire load.

8. What is meant by Egress design?

9. Mention any two applications of flame arrestors.

10. Give two example fire suppression system.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain about the theory of combustion and explosion.

Or

(b) Write short notes on flash fire, jet fire and pool fire.

12. (a) Illustrate about unconfined vapour cloud explosion.

Or

(b) Elaborate the principles of fire extinguishing.

13. (a) Describe the various classes of fire.

Or

(b) Summarize the functions of fire alarms and sirens.

14. (a) Explain about the selection criteria of deluge and emulsifier fire suppression system.

Or

(b) Explain in detail the dry chemical powder fire suppression system.

15. (a) Describe the functions of any one of fire detection system.

Or

(b) Write short notes on hazards in LPG and Sulphur dioxide.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain about the active and passive fire protection systems.

Or

(b) Explain the working principles and uses of Flame Arrestors with neat sketch.

17. (a) State the types of fire protection system need to be provided for an industrial building and detail about it.

Or

(b) Discuss about the concept of Egress design in fire safety. Enumerate the advantages of snookers in high rise buildings.

18. (a) Explain the explosion suppression system based on CO2 and Halons.

Or

(b) As a safety officer how do you get the NOC – No Objection Certificate from the divisional fire office to a new high rise building? List out objectives of fire safe building design.

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C–0646	Sub. Code
	30616

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

First Semester

Industrial Safety and Hygiene

INDUSTRIAL HYGIENE I : RECOGNITION OF HAZARDS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define industrial psychology.

2. What is meant by a confined space?

3. What is pulmonary function test?

4. Define ESOP.

5. What is machine guarding?

6. Expand and explain PUWER.

7. Define Risk Assessment.

8. How to control risks?

9. Difference between slip and trip.

10. Define Biological Hazard.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What are the safe waste disposal methods?

Or

(b) Explain about safe working conditions at workplace.

12. (a) Write about hearing conservation program.

Or

(b) Explain Occupational diseases.

13. (a) Explain the step procedure for applying LOTO.

Or

(b) Explain in short about need for guarding of machinery.

14. (a) Difference between Qualitative and Quantitative risk assessment.

Or

(b) What is housekeeping? Mention some benefits of housekeeping.

15. (a) Explain the following terms.

(i) Crushing

(ii) Cutting

(iii) Entanglement.

Or

(b) Write in short about environmental hazards.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write in detail about industrial hygiene.

Or

(b) Explain in detail about occupational health awareness.

17. (a) Explain in detail about electrical hazards.

Or

(b) Write about General Safety Requirements as per Indian Electricity Rules 1956.

18. (a) Explain in detail about risk assessment.

Or

(b) Explain in detail about chemical hazards.

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C–0647	Sub. Code
	30621

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Second Semester

Industrial Safety And Hygiene

BEHAVIOUR BASED SAFETY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** the questions.

1. Mention the types of personalities.

2. Define attitude.

3. What is group dynamics?

4. How to form an organization?

5. Describe shortly about - BBS.

6. What is safety coaching?

7. Criticize health promotion training.

8. Write the importance of brainstorming.

9. Who is a perfect leader?

10. List the role of safety leadership.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly discuss the major factor that influences personality.

Or

(b) Describe in detail about emotional labor.

12. (a) Explain in detail about working norms.

Or

(b) What are interpersonal relations and discuss them with necessary data.

13. (a) Discuss the ABC behavior model with relevant data.

Or

(b) Criticize the critical impact of social comparison feedback.

14. (a) What are all the four guidelines in brainstorming discussed in detail?

Or

(b) Differentiate interpersonal and intra-personal conversations.

15. (a) Explore the employee's involvement in occupational safety.

Or

(b) Shortly discuss about behavior-based safety coaching.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Explain in detail about misbehavior and its types with relevant information.

Or

(b) What is organization structure? and briefly discuss about its.

17. (a) Brief out the need and importance of safety culture.

Or

(b) List the stages of brainstorming and explore each stage with the necessary data.

18. (a) Describe ten leadership qualities for total safety culture.

Or

(b) Explain briefly about group behaviour and group decision-making techniques.

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C–0648	Sub. Code 30626

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Second Semester

Industrial Safety And Hygiene

INTERNATIONAL HEALTH AND SAFETY STANDARDS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A ($10 \times 2 = 20$)

Answer **all** the questions.

1. Write the employment medical service.

2. Who is the IMS certified body?

3. Define accident reports.

4. What is the relationship between clauses 4.1 and 4.2?

5. What are the potential benefits of adopting ISO 45001?

6. Define IMS policy.

7. Write the safe work program.

8. Define ANSI.

9. How to control the harmful emission into the atmosphere?

10. Why does ISO 14001 sometimes use “effects” and sometimes impact?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) What happened to all the required procedures in ISO 14001:2004?

Or

(b) What is the intent of the phrase enhance environment performance?

12. (a) Explain about investigations corrective action.

Or

(b) What are the process and procedures of recording?

13. (a) Explain the power of the commission to direct investigation and inquiries.

Or

(b) Explain - Inspector.

14. (a) What is the ILO provision concerning working time?

Or

(b) Discuss about general functions of the Commission and the executive.

15. (a) Explain briefly about ISO 14001.

Or

(b) Difference between the ISO 45001 and OSHAS 18001.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain the Health and Safety at work act 1974.

Or

(b) We are currently developing an OSH management system for our company. What are the elements and processes we need to bear in mind?

17. (a) What are the general duties of employers and employees?

Or

(b) Explain about emergency planning and control.

18. (a) Explain the general principles and stages of LCA.

Or

(b) What is the intent of clause 4.3 in determining the scope of the EMS?

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C–0649	Sub. Code
	30631

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Third Semester

Industrial Safety And Hygiene

CONSTRUCTION SAFETY ANALYSIS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** the questions.

1. Name the toxic fumes

2. What is BOCW Act 1996?

3. Define excavation.

4. Write short notes on mucking plants.

5. Differentiate spreader and paver.

6. List the uses of mobile cranes.

7. What are suspended scaffolds?

8. How to handle leather goods in construction?

9. Define grinding.

10. Identify the need for electrical installations.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Define noise and brief out the control methods of noise in construction.

Or

(b) Briefly describe the childcare facilities.

12. (a) Explain the responsibility of the supervisor in construction safety.

Or

(b) Discuss in general about piling and Deep foundations.

13. (a) Describe the safe load indicators and discuss their importance with one example.

Or

(b) Explore the role of mobile cranes in material-movements.

14. (a) Erection equipment — explain.

Or

(b) Describe briefly the handling of steel sections.

15. (a) Briefly discuss the selection and maintenance of hand tools.

Or

(b) Explain briefly about gas cutting.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Briefly discuss about the need and significance of drink and meals facilities.

Or

(b) Explore the guidelines for firing and brief out short firing.

17. (a) Discuss safety devices briefly.

Or

(b) Describe the following.

(i) Casting

(ii) Mobile Scaffolds

18. (a) Explain in detail about power driven machineries.

Or

(b) Briefly discuss about the electrical cables and wires handling in construction.

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C–0650	Sub. Code
	30632

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Third Semester

Industrial Safety And Hygiene

INDUSTRIAL SAFETY ENGINEERING

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define LPG.

2. Name any two thermal power stations located in India.

3. What is Zero Mechanical State?

4. Differentiate boring and drilling.

5. Define resistance welding.

6. How to handle industrial gases?

7. Write short notes on safety in radiography.

8. Application of personal monitoring devices.

9. What is Osha Standard?

10. List the benefits of a short term action plan.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain Fire service rooms.

Or

(b) Describe in detail about fireworks.

12. (a) Briefly discuss about electron eye.

Or

(b) Explain the benefits of good guarding systems.

13. (a) What are all the safety precautions that need to be followed in brazing?

Or

(b) Explain — Color Coding.

14. (a) Write short notes on dynamic balancing.

Or

(b) Discuss shortly about shot blasting.

15. (a) Briefly discuss the certification procedure.

Or

(b) Describe strategy and planning- OSHA.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain safe layout for process industries.

Or

(b) What is shaping and sawing, and discuss it with the necessary information?

17. (a) Briefly discuss about training and personal protective equipment.

Or

(b) Explain in detail about administrative controls.

18. (a) Briefly discuss the structure and features of OSHAS 18001.

Or

(b) Explain the importance of industrial safety engineering.

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C–0651	Sub. Code
	30633

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Third Semester

Industrial Safety and Hygiene

EVOLUTION OF MODERN SAFETY CONCEPTS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Why is Incident Recall Technique (IRT) important?

2. State the objectives of safety management.

3. Define contingency theory.

4. Define system theory.

5. What is meant by FEMA?

6. What is Human factor theory?

7. Define Hazard identification.

8. Define Epidemiological theory.

9. What are O.C. curves?

10. Define Design.

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Explain the principles of management.

Or

(b) Explain how you plan and prepare to counter any disaster in a hazardous chemical industry as a safety engineer. Indicate the technique followed to counter disaster.

12. (a) Write a short note on Management theories.

Or

(b) What is meant by Directive Democrat-Directive Autocrat?

13. (a) What is the reliability of critical systems and devices?

Or

(b) What is meant by identifying Risks?

14. (a) Write a note on Heinrich's Axioms of Industrial Safety.

Or

(b) Explain the Combination theory.

15. (a) Write a short note on the Weibull model.

Or

(b) What is meant by Optimization in reliability?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain -How do you would conduct a plant safety inspection? Prepare a checklist and inspection report format for inspecting a workshop for an engineering factory.

Or

(b) Explain in detail Maslow's Hierarchy of needs and physiological needs in management techniques.

17. (a) Explain briefly about Accident Investigation Procedure and the purpose of the investigation and the procedure involved in it.

Or

(b) Explain in detail Hazard analysis and Risk Control. What is the procedure involved in Quantitative Risk analysis?

18. (a) What is meant by Product design, product analysis, product development, and product life cycle?

Or

(b) Explain in detail about safety procedures to be followed while operating woodworking machinery.

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C–0652	Sub. Code
	30634

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Third Semester

Industrial Safety And Hygiene

COMPUTER AIDED HAZARD ANALYSIS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Compare voluntary and involuntary risk.

2. Discuss the term Hazop.

3. Describe the minimum ignition energy test.

4. List the advantages of RSST.

5. Compare FTA versus ETA.

6. List the main phases of FMEA.

7. Summarize the importance of the logic of consequences analysis.

8. List a few examples of Chemical toxicants.

9. List the outputs derived from the reactor safety study of the nuclear plant.

10. Summarize the merits of past accident analysis.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) How is HAZOP conducted? Explain in detail with a case stud

Or

(b) Explain the factors for consideration of safety warning systems.

12. (a) Discuss the various types of testing applied in hazard analysis

Or

(b) With a neat diagram, explain the construction and working of a BAM friction tester.

13. (a) Explain in detail the steps involved in performing FETI.

Or

(b) Explain the HAMGARS module on heat radiation.

14. (a) How will you identify the hazard based on the properties of chemicals?

Or

(b) Explain chemical inventory analysis.

15. (a) Explain Rijnmond report with the case study.

Or

(b) Describe the Port Hudson disaster in detail.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain how hard identification, risk assessment, and control procedures are followed in industries with suitable examples.

Or

(b) Explain Controlling parameters. Applications, and advantages: explosive Testing, Deflagration Test.

17. (a) List the various steps involved in FETI and apply FETI for an industrial setup handling dangerous chemicals and discuss it.

Or

(b) Design a Reactor safety study of Nuclear power plant

18. (a) Describe past accident analysis as information sources for Hazard analysis and consequences analysis of chemical accidents and the Mexico and Bhopal disasters.

Or

(b) Explain the types of chemicals and legislation on hazardous substances.

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C–0655	Sub. Code
	30635C

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Third Semester

Industrial Safety and Hygiene

HAZARDOUS WASTE MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What are the characteristics of hazardous waste?

2. Define TREM.

3. What is the flammability of chemicals?

4. What is municipal solid waste?

5. Describe shortly - waste transport.

6. How to dispose of power plant wastes safely?

7. What is meant by radioactive waste management?

8. Define autoclave.

9. What is meant by the Leachate collection?

10. Define chemical oxidant.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain about the manifest system.

Or

(b) Write a note on hazardous waste management.

12. (a) Write a note on Biomedical waste handling Rules.

Or

(b) Discuss about the fly ash rules.

13. (a) Write about the treatment option for solid waste.

Or

(b) Write a note on Radioactive Waste Management.

14. (a) Write about the micro clave.

Or

(b) Write about Landfill design for solid waste.

15. (a) Write a note on IN-SITU remediation.

Or

(b) Discuss about the slurry phase bioreactor.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Describe in detail the UN classification of chemicals.

Or

(b) Explain in detail about various regulations related to Hazardous Waste Management.

17. (a) Discuss about the nuclear power plant and fuel production.

Or

(b) Write a note about the environmental risk.

18. (a) Discuss about the MSIHC rules 1989.

Or

(b) Discuss in detail about the chemical treatment processes for MSW.

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C–0656	Sub. Code
	30641

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Fourth Semester

Industrial Safety and Hygiene

ENVIRONMENTAL SAFETY MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** the questions.

1. Name any two air pollutants, their sources and effects.

2. Differentiate UV and IR Radiation.

3. List any four water quality parameters.

4. What are the causes and effects of water pollution?

5. Brief 3R of waste management.

6. Mention the health hazards related to waste.

7. How do you control gaseous emission?

8. Write the purpose of PH meter.

9. Write the objectives of pollution control in process industries.

10. List few unsafe acts in textile industries.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write short notes on deforestation.

Or

(b) Brief the effects of air pollutants on plants.

12. (a) How to control water pollution in tannery industries? Explain.

Or

(b) Write the merits and demerits of water sampling method.

13. (a) Classify hazardous waste and its reduction techniques.

Or

(b) Discuss the collection methods of solid waste.

14. (a) Write short notes on the electrostatic precipitator.

Or

(b) Discuss the major duties of pollution control board.

15. (a) Explain the procedure to control pollution in thermal power plant.

Or

(b) What are the main sources of pollution in process industries, and how can they be controlled?

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) What role do transportation and industry play in air pollution, and how can these sectors transition to more sustainable practices?

Or

(b) Discuss the long-term consequences of untreated sewage and wastewater on water quality and public health

17. (a) How can technology be used to improve hazardous waste management practices, and what are the potential drawbacks?

Or

(b) Discuss the importance of environmental measurement in environmental management.

18. (a) Discuss the pollution control methods in paper industries.

Or

(b) Describe the challenges associated with pollution control in process industries, and how can they be overcome?

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C–0657	Sub. Code
	30642

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Fourth Semester

Industrial Safety and Hygiene

EHS MANAGEMENT STANDARDS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is the purpose of implementing OHSAS 18001?

2. Why is OSHA training important?

3. What are some key elements that should be included in an OHSAS 18001 policy?

4. What are the basic elements of OHSAS?

5. List the role of middle level management.

6. What do you mean by 'Measurement techniques?

7. Brief EMS.

8. Mention the essential qualification of an auditor.

9. What are some limitations of LCA?

10. Which type of project usually requires an EIA?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) How to get OHSAS 18001 certification?

Or

(b) List out the benefits of ISO 14001.

12. (a) Discuss the OHSAS 18001 Audit checklist of general Requirements.

Or

(b) Discuss the general principles of OH and S policy.

13. (a) What are the key responsibilities of top level management?

Or

(b) Write the significance of record management.

14. (a) Discuss the guidelines of ISO 14004.

Or

(b) Prepare an audit plan for a construction company.

15. (a) Differentiate a cradle-to-grave and a cradle-to-cradle approach in LCA.

Or

(b) Discuss the importance of EIA activities for developing countries.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Describe the structures and features of OSHAS 18001.

Or

(b) Elaborate the scope and specification of ISO 9001:1994.

17. (a) Discuss the role of technology in enhancing EHS management practices.

Or

(b) Discuss a Case Study about the Role of ISO 14001 in Sustainable Development.

18. (a) Discuss the future of LCA: trends and challenges in India.

Or

(b) Discuss the history and evolution of EIA as a tool for environmental management.

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C–0658	Sub. Code
	30643B

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

Fourth Semester

Industrial Safety and Hygiene

SAFETY IN LOGISTICS AND WAREHOUSE

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What are the responsibilities of a logistician?

2. Why is safety important in a warehouse?

3. What are the four most commonly transported HAZMAT?

4. Write any two safety slogans.

5. List two unacceptable behaviours and two safe practices for the warehouse.

6. Write the importance of forklift training.

7. What are the most commonly used hand tools for the manual lifting of materials?

8. Classify slings and its defects.

9. What are the Precaution for a person, in case of fire burn?

10. Define Auto ignition temperature.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) How does inventory management impact warehouse efficiency?

Or

(b) How does automation technology impact logistics operations?

12. (a) Discuss the challenges associated with the transportation of hazardous goods.

Or

(b) What should a driver do in case of an accident involving hazardous materials?

13. (a) How can proper lighting and ventilation be ensured in a warehouse to improve worker safety?

Or

(b) What are the requirements for personal protective equipment (PPE) in a warehouse and how can workers be properly fitted for PPE?

14. (a) What are some common types of material handling equipment and how are they used?

Or

(b) Discuss dynamic phenomenon in Chain conveyors.

15. (a) What are the Precaution for a person, in case of fire burn?

Or

(b) Classify fire extinguishers and how are they best used in various fire scenarios.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Discuss the significance of warehousing in logistics.

Or

(b) Elaborate the accident investigation and reporting procedures in detail.

17. (a) Explain the safe gasoline handling methods in detail.

Or

(b) Sketch and explain any two type of cranes and its merits and demerits.

18. (a) Elaborate the different elements of supply chain management.

Or

(b) How do natural disasters, such as wildfires and earthquakes, impact fire safety, and what steps can be taken to mitigate their effects?

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