C–2257	Sub. Code
	90321

DIPLOMA EXAMINATION, APRIL 2024

Second Semester

Fire and Industrial Safety

SAFETY IN MATERIAL HANDLING

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is manual handling?
2. What is cryogenic liquid?
3. What is ergonomics?
4. Give any two reasons for crane accident.
5. Define derricks.
6. What is the use of hoist limit switch?
7. Define Rigging.
8. Define hoist.
9. What is Escalator?
10. What is electric truck?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain about hand trolley and hand truck.

Or

(b) Explain about team lifting and carrying.

12. (a) Write the importance of preventive maintenance.

Or

(b) Write about the reasons for Crane accident and preventive measures.

13. (a) Explain the types of derricks.

Or

(b) Explain about the safe operative method of derricks near power line.

14. (a) Explain about strength of wire rope and fatigue of wire rope.

Or

(b) Explain in detail about PPE and its types.

15. (a) How do you conduct performance test for powered Industrial trucks?

Or

(b) Explain LPG truck.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain in detail about safe use of accessories for manual handling.

Or

(b) Write about crane signals with explanation.

17. (a) Explain in detail about hazardous material storage and necessary PPE's for handling.

Or

(b) Explain briefly about fork lift safe operations and testing procedures.

18. (a) Explain in detail about the operating principles of industrial trucks.

Or

(b) Explain advantage and application of manlift.

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C–2258

Sub. Code
90322

DIPLOMA EXAMINATION, APRIL 2024

Second Semester

Fire and Industrial Safety

CHEMICAL SAFETY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Toxicity?
2. Write about Atmospheric Monitoring.
3. What is HAZCHEM code?
4. Write the objectives of risk assessment.
5. What are all the Physical Hazards in Chemicals?
6. What is TREM card?
7. What is SOP?
8. Who is Contractor and Client?
9. What are the benefits of good house keeping?
10. What is Compressed Gases?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write about Occupational Skin diseases due to chemicals.

Or

(b) Explain about MSDS.

12. (a) Explain in details about Emergency Information Panel.

Or

(b) Outline the checks that could be made in assessing the H and S competence of a contractor.

13. (a) Explain about the chemical storage tanks maintenance procedure.

Or

(b) Explain about the general safety guidelines for safe storage and handling of chemicals.

14. (a) How to store the compressed gas cylinders safely

Or

(b) Explain the Routes of entry for chemicals.

15. (a) Explain about the Respiratory PPE and its types.

Or

(b) Explain about Good Housekeeping with their advantages and disadvantages.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Write a short note on transportation of hazardous chemical safely.

Or

(b) Explain management of change in PSM.

17. (a) Write about the recommended practices for handling and storage of LPG.

Or

(b) Explain about Toxic and Corrosive substances handling.

18. (a) Write a short note on chemical exposure risk assessment.

Or

(b) Draw and explain WHMIS symbols.

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C–2259

Sub. Code
90323

DIPLOMA EXAMINATION, APRIL 2024

Second Semester

Fire and Industrial Safety

BASIC OF SAFETY MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is informal Inspection?
2. What is Short team sampling?
3. Mention some of the contents in safety audit checklist.
4. Define ANSI.
5. Why Accident occurs?
6. What is Direct cost?
7. Write the formula of MVAR.
8. Write the formula of Cost Severity Rate.
9. What is Safety survey?
10. What is Safety Training Method?

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

Answer **all** questions.

11. (a) Write about short notes on IRT.

Or

(b) Outline the circumstances that will require review of safety policy.

12. (a) Write about Objectives of Safety Audit.

Or

(b) List out the safety Audit Report content.

13. (a) Explain the reporting to Statutory Authority.

Or

(b) Explain the role of safety committee.

14. (a) Write the disadvantages of calculation of accident indices.

Or

(b) Explain the severity rate.

15. (a) Write about Safety Education.

Or

(b) Explain the methods of promoting safety.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write about Disaster Control.

Or

(b) Explain about Perusal of Accidents and Safety Record Formats.

17. (a) Explain the principles of Accident Prevention.

Or

(b) What are the documents to be examined during safety audit?

18. (a) Write about ANSI recommended practices for compiling and measuring work injury experiences.

Or

(b) Write about Importance of Safety Training.

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C–2260

Sub. Code
90324

DIPLOMA EXAMINATION, APRIL 2024

Second Semester

Fire and Industrial Safety

ENVIRONMENTAL STUDIES

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. BVIEER.
2. WWF.
3. Producer.
4. Consumer.
5. Genetic biodiversity.
6. Endemic species.
7. Plume.
8. Thermal pollution.
9. List four common plants of your local area.
10. Ecological pyramids.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write notes on scope of environmental studies.

Or

(b) Write short notes on importance of environmental studies.

12. (a) Write notes on environmental effects of extracting and using mineral resources.

Or

(b) Write notes on benefits and problems of dams.

13. (a) Write notes on energy flow in the ecosystem.

Or

(b) Write notes on food webs of grassland ecosystem.

14. (a) Prove "India as a mega-diversity nation".

Or

(b) Write notes on conservation of biodiversity.

15. (a) Write notes on simple pond ecosystem of your local area.

Or

(b) Write notes on causes, effects and control measures of air pollution.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on need for public awareness regarding environmental protection.

Or

(b) Write an essay on food resources with special reference to world food problems caused by agriculture, overgrazing, fertilizer-pesticide problems, water logging and salinity.

17. (a) Write an essay on values of biodiversity.

Or

(b) Write an essay on causes, effects and control measures of marine pollution.

18. (a) Write a detailed account on your visit to local polluted site.

Or

(b) Write an essay on your visit to a local area regarding documentation of environmental assets.

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C–2261	Sub. Code
	90331

DIPLOMA EXAMINATION, APRIL 2024

Third Semester

Fire and Industrial Safety

INDUSTRIAL SAFETY MANAGEMENT AND CONTINUOUS IMPROVEMENT CONCEPTS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is the cost of accidents?
2. How to prepare accident reports?
3. What is the purpose of the site layout?
4. List the NDT methods.
5. Define ergonomics.
6. What is industrial toxicology?
7. Define welding.
8. Write short notes on slipped disc syndrome.
9. Role of readership — discuss shortly.
10. What is POKA YOKE?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly discuss about insurance and compensation.

Or

(b) Write short notes on worker's safety.

12. (a) Explain in detail about fire protection and its methods.

Or

(b) What are hazardous materials? Discuss briefly about hazardous materials.

13. (a) Describe in detail about industrial Hygiene.

Or

(b) Explain PPE with the necessary information.

14. (a) Differentiate hand tools and portable power tools.

Or

(b) Discuss in detail about radiation hazards.

15. (a) Explain — Five Why's Techniques.

Or

(b) Express ISHIKAWA diagrams with necessary data.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Explain in detail about safety inspections and audits.

Or

(b) Identify the causes of building failure and suggest suitable remedies.

17. (a) List the safety equipment and explain any two equipment in detail.

Or

(b) What is poor housekeeping? and Discuss in detail about Woodworing Machinery

18. (a) Briefly discuss about 5S.

Or

(b) Write the need, importance and concepts of industrial Safety Management.

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C–2262

Sub. Code
90341

DIPLOMA EXAMINATION, APRIL 2024

Fourth Semester

Fire And Industrial Safety

FIRE DESIGN ENGINEERING

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

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

Answer **all** the questions.

1. Write short notes on the characteristics of fire.
2. Define fire load.
3. What is a passive fire protection system? -
4. Identify the purpose of the fireball.
5. What is a fire hydrant system?
6. Mention the need for a hose box.
7. Differentiate flooding system and suppression system.
8. Write the significance of CO_2 in the suppression system.
9. List the uses of smoke detectors.
10. What is the need for emergency lighting?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly discuss about firefighting techniques

Or

(b) Describe in detail about the reason for the fire.

12. (a) Need and importance of fire protection system.

Or

(b) How to perform fire extinguisher service and maintenance.

13. (a) What are all the things that need to be considered during the installation of a fire hydrant system?

Or

(b) Write briefly about sprinkler system installation.

14. (a) Briefly discuss about CO_2 flooding system.

Or

(b) Explain in detail about the brigade.

15. (a) Explain in detail about communication techniques for fire technicians.

Or

(b) Briefly discuss about wiring method for the addressable fire alarm system.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) What is NBC? and Briefly discusses NBC classification based on occupancy

Or

(b) Explain in depth about sand and water buckets technically.

17. (a) Describe briefly about hydrant fitting methods.

Or

(b) Write the importance and need of Foam suppression systems in fire design engineering.

18. (a) Discuss briefly about location setting in detector and training.

Or

(b) Explain the method of coding writing in the fire panel and testing with necessary data.

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C–2263

Sub. Code
90342

DIPLOMA EXAMINATION, APRIL 2024

Fourth Semester

Fire and Industry Safety

PROCESS SAFETY MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Process Chemistry?
2. Define LEL and UEL.
3. Write the limitations of PHA.
4. Who need safety training?
5. Define Mechanical Integrity.
6. What is Quality Assurance?
7. What is Incident?
8. Why incident should be investigated?
9. What is hot work?
10. Define Trade secret.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What are the 14 elements of PSM?

Or

(b) Write about Process Safety Hazards.

12. (a) Explain the elements of operating procedure.

Or

(b) Write about Failure Mode and Effect Analysis.

13. (a) How accidents will be documented?

Or

(b) Explain the role of safety committee.

14. (a) Write the disadvantages of calculation of accident indices.

Or

(b) Explain Frequency Severity Incidence.

15. (a) Write about safety campaign.

Or

(b) Explain the methods of promoting safety.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write about Ventilation System and Process Safety Design codes.

Or

(b) Write the contents of accident investigation report.

17. (a) Explain the principles of Accident Prevention.

Or

(b) What are the documents to be examined during safety audit?

18. (a) What is the role of private consulting agencies in safety training?

Or

(b) Write about Emergency Planning and Response.

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C–2264	Sub. Code
	90343

DIPLOMA EXAMINATION, APRIL 2024

Fourth Semester

Fire and Industrial Safety

HAZARD IDENTIFICATION RISK ASSESSMENT AND RISK CONTROL

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is Hazard?
2. Interpret fault tolerance.
3. Write short notes on plant hazards.
4. Define risk assessment.
5. Mention the procedures included in data collection.
6. What do you mean by human reliability analysis?
7. Describe SIL.
8. What is the risk priority number in FMEA?
9. Why design is important in safety instrumentation?
10. Define third-party certification of instruments.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Summarize the risk register, matrix, and ranking.

Or

(b) Write short notes on safety instrumentation and functional safety.

12. (a) Discuss in detail about preliminaries of plant hazard analysis.

Or

(b) Summarize the HAZID and risk estimation.

13. (a) Explain in detail about preliminary hazard analysis.

Or

(b) Contrast 'what if' and checklist analysis in detail.

14. (a) Interpret the SIL determination techniques in detail.

Or

(b) Explain computer HAZOP and intelligent HAZOP.

15. (a) Write short notes on the commission and validation of safety instrumentation systems.

Or

(b) Discuss electrical area classifications.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Discuss the risk consequence, PHA, and fault tolerance in detail.

Or

(b) Explain in detail about various PHA methods.

17. (a) Discuss in detail about human reliability analysis.

Or

(b) Describe about risk analysis and SIL calculation for safety instruments.

18. (a) Discuss about the automated FMEA concepts with the controls and recommendations.

Or

(b) Write short notes on procedures for flammable gas detection and explosion protection.

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C–2265

Sub. Code
90344

DIPLOMA EXAMINATION, APRIL 2024

Fourth Semester

Fire and Industrial Safety

SAFETY INSPECTION AND AUDIT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Elaborate importance of Inspection.
2. What is the primary role of the inspection team?
3. What are the objectives of an Audit?
4. Write short notes on post-audit activities.
5. Define three levels of documentation.
6. What is the principle of LCA?
7. List out the importance of continual improvement.
8. Critic eco-labeling with suitable examples.
9. What is the structure of the OHSAS standard?
10. Mention the priorities of OH and S policy.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write about the planning of workspace inspection.

Or

(b) Explain in detail about the inspection team and elaborate frequency of the Inspection.

12. (a) Summarize types of Audits with their objectives.

Or

(b) Explain audit reporting and post-audit activities.

13. (a) Evaluate ISO 14001 policy and generalize its guidelines and principles.

Or

(b) Summarize ISO 14020 (Eco-labeling) and elaborate on its types and functions.

14. (a) State the significance of the OS and H audit with its element, scope, and specification.

Or

(b) Explain in detail about the safety audit questionnaire.

15. (a) Discuss OH and S management system elements with their specification and scope.

Or

(b) Contrast ISO 45001 and OHSAS 18001 with proper evaluation.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about hazards in the workplace and the duration of the Inspection.

Or

(b) Detail the collecting, interviewing, and evaluating process in audit evidence.

17. (a) Interpret in detail about ISO 14004 and its clause along with guidelines.

Or

(b) Elaborate EIA in EMS with its methodology, scope, and advantage.

18. (a) Discuss the guidelines in IS 180022000 and how they relate to OH and S policy.

Or

(b) Detail the development of an action plan and high-level structure and annex SL with key changes in ISO-45001.

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C–2266	Sub. Code
	90351

DIPLOMA EXAMINATION, APRIL 2024.

Fifth Semester

Fire and Industrial Safety

SAFETY IN HIGH HAZARDOUS AREAS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Classify hazardous industrial zones.

2. What is flame proof equipment?

3. Write short notes on NEC.

4. Differentiate first degree and second degree.

5. Define hot spot temperature.

6. List the uses of oil-immersed equipment.

7. What do you understand from the word Intrinsic Safety?

8. Identify the need for fiber optics.

9. Mention the intrinsic safety principle.

10. Define ionizing radiation.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain in detail about Explosion-proof equipment.

Or

(b) Describe briefly online monitoring expert systems.

12. (a) Explain the procedure for the classification of hazardous areas.

Or

(b) Elaborately discuss about dust and gas in hazardous areas.

13. (a) Write short notes on SF_6 gas-insulated equipment.

Or

(b) Discuss the significance of sand filled installation.

14. (a) Discuss any one protection method in detail in hazardous areas.

Or

(b) Explain in detail about dust ignition proof enclosure.

15. (a) Differentiate electrical sparks and electrical arcs.

Or

(b) Discuss shortly – Class II and Class III.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain the expert systems for safety assurance with necessary data.

Or

(b) Briefly discuss the following

(i) OSHA

(ii) NEC

17. (a) What is type 'P' installation? And explain briefly with relevant information.

Or

(b) Describe in detail about conduit and cable seals.

18. (a) What are NFPA Standards discussed briefly with relevant data?

Or

(b) What are the necessary safety steps to be followed in hazardous areas.

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C–2267	Sub. Code
	90352

DIPLOMA EXAMINATION, APRIL 2024.

Fifth Semester

Fire and Industrial Safety

SAFETY IN OIL AND GAS INDUSTRIES

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

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

Answer **all** questions.

1. What is the need for safety in gas industries?

2. Define occupational stress.

3. Write the significance of job safety analysis.

4. What is preliminary hazard analysis?

5. Name any two national and international offshore gas industries.

6. Discuss shortly – the offshore worker situation awareness concept.

7. List the individual factors which will affect safety in general.

8. How do we reduce accidents in the oil industry?

9. What is mitigation?

10. Define safety management.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Classify human error and discuss it in detail.

Or

(b) What are safety management principles? and briefly discuss the safety management principles.

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

Or

(b) Describe in detail about root cause analysis.

13. (a) Discuss the glomar java sea drillship accident with the required information.

Or

(b) Briefly discuss about Seacrest drillship accident.

14. (a) Explain in detail about accident related human factors in gas industries.

Or

(b) Distinguish individual and group factors.

15. (a) Express – Danish energy agency in a detailed manner.

Or

(b) What are all the prevention methods that need to be followed in offshore gas rigs accident?

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Elaborately discuss about accident causation theories.

Or

(b) Explain in detail about the Markov method.

17. (a) Discuss in detail about the offshore industry accident reporting approach.

Or

(b) Briefly discuss about oil field fatality analysis.

18. (a) Explain in detail about the international association of oil producers.

Or

(b) What general prevention and safety measures need to be followed in the oil and gas industries?

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C–2268

Sub. Code
90353

DIPLOMA EXAMINATION, APRIL 2024

Fifth Semester

Fire and Industrial Safety

SAFETY ASPECTS IN INDUSTRIAL PLANT LAYOUT DESIGN

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. State the use of Layout.
2. List out the types of Layouts.
3. Write the factors to be considered to fix a location.
4. Name any two non-destructive testing methods.
5. Brief TQM and CIM.
6. Write down few lifting devices used in a plant.
7. Stress the purpose of good ventilation.
8. Why housekeeping is required?
9. Give the various types of material handling.
10. Name the accessories used in Material handling process.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write short notes on Equipment Layout.

Or

(b) Describe the factors to be considered for a good plant layout.

12. (a) Why the land and water sources are mainly considered in plant layout?

Or

(b) Give short notes on Magnetic Particle test and Die Penetrant test.

13. (a) Why warehouse is required? Stress its importance.

Or

(b) Discuss about Production activity and Material flow analysis on plant layout.

14. (a) State the advantages of good illumination.

Or

(b) Brief the principles of 5S.

15. (a) Point out the general safety considerations in Material Handling.

Or

(b) Brief the importance of Lubrication non Material handling processes.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) How road and rail line availabilities and waste disposal methods affect a plant layout?

Or

(b) Point out the safety aspects to be considered on LPG cylinders handling and storage.

17. (a) Brief any two NDT testing methods with their significance.

Or

(b) As a Safety officer how you improve the working condition of work place towards safety.

18. (a) State the importance of housekeeping to enhance safety.

Or

(b) How the accidents can be minimized in material Handling processes?

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C–2269	Sub. Code
	90361

DIPLOMA EXAMINATION, APRIL 2024

Sixth Semester

Fire and Industrial Safety

SAFETY MANAGEMENT SYSTEM

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

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

Answer **all** the questions.

1. Define OHSAS 18001.
2. Define the role of management in safety.
3. Discuss various variety of plans in safety policy.
4. What is meant by SHE?
5. What are the needs for safety training?
6. Write the role of government agencies in safety training.
7. What is meant by Employee participation in safety?
8. Define Organisational behavior.
9. What is meant by Trade Union?
10. Define Behavioural Safety.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain the use of IT Tools in managing SHE systems.

Or

(b) Summarize the events that led to the modern safety concept.

12. (a) Write a short note on Haddon's principle.

Or

(b) Explain briefly about strategic planning and the process of implementation in safety.

13. (a) Write short notes on the In-plant training program.

Or

(b) Explain briefly the modern method of safety training.

14. (a) Explain Safety suggestion schemes.

Or

(b) Explain in brief about the modern methods and techniques of safety promotion.

15. (a) Write short notes on theories of motivation and their safety application.

Or

(b) Explain ethical issues.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain the safety signage, signals and displays, notices, and labels required to be provided under SHE regulations.

Or

(b) Explain in detail about evaluation and review of Training Programmes.

17. (a) Explain the nature, scope, methods, and importance of Employee Participation in Safety.

Or

(b) Elucidate in detail the behavioral safety and human factors contributing to accidents.

18. (a) Write about knowledge and responsibility vs. safety performance in detail.

Or

(b) Explain the safety department and the officer's qualifications, functions, roles, and responsibilities.

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C–2270	Sub. Code
	90362

DIPLOMA EXAMINATION, APRIL 2024

Sixth Semester

Fire and Industrial Safety

COMPUTER AIDED HAZARD ANALYSIS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

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

Answer **all** the questions.

1. Distinguish between risk assessment and risk control.
2. How do you correlate social benefits with technological risk?
3. List the advantages of RSST.
4. What is Minimum Ignition Energy?
5. In what way FMEA is useful to improve a system design?
6. What are the reliability software available for mechanical and electrical systems?
7. Analyze flash fire and jet fire.
8. List few examples for Chemical toxicants.
9. List the outputs derived from the reactor safety study of nuclear plant.
10. Write a note on Bhopal gas tragedy.

Part B (5 × 5 = 25)

Answer **all** the questions.

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

Or

(b) How is HAZOP conducted? Explain in detail with a case study.

12. (a) Explain the significance of TGA. Mention its applications, advantages, and disadvantages.

Or

(b) What is Thermo Gravimetric Analyser (TGA)? Narrate the working principle of TGA, draw a typical TGA curve and interpret it in detail.

13. (a) Explain the following risk analysis procedure.

(i) Minimal cut set ranking

(ii) FETI

Or

(b) Explain HAMGARS module on heat radiation.

14. (a) Describe the following consequence analysis.

(i) Gas/Vapour dispersion

(ii) UVCE.

Or

(b) Explain in detail about hazard identification based on the properties of the chemicals. Also explain about the chemical inventory analysis.

15. (a) Explain the following :

(i) Feyzin disaster (1966)

(ii) Port Hudson disaster.

Or

(b) Discuss in detail about reactor safety study on nuclear power plant.

Part C $(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Develop a detailed methodology for safety audit.

Or

(b) Explain Controlling parameters. Applications, advantages. Explosive Testing. Deflagration Test.

17. (a) Prepare a Fault Tree Analysis and Event Tree Analysis for an industry.

Or

(b) Create a procedure to avoid explosion in the industry.

18. (a) List out the major disasters and create a methodology to operate an industry safely.

Or

(b) Discuss the following consequence analysis.

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C–2271	Sub. Code
	90363

DIPLOMA EXAMINATION, APRIL 2024

Sixth Semester

Fire and Industrial Safety

BEHAVIOR BASED SAFETY AND INDUSTRIAL ERGONOMICS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

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

Answer **all** the questions.

1. What is safety culture?
2. List out the barriers to BBS.
3. Define Attitude.
4. What is perception?
5. What is communication?
6. Why do we need to build a team?
7. Define ergonomics.
8. What is a machine foundation?
9. Define adjustment range.
10. What is meant by the man-machine interface?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write the consequences of the ABC Behaviour model.

Or

(b) Briefly explain about addressing ergonomic hazards.

12. (a) How to handle Emotional labour?

Or

(b) What are the factors to be considered for influencing perception?

13. (a) Write short notes on "Influence".

Or

(b) Briefly explain about interpersonal relations.

14. (a) Difference between physical strain and mental strain.

Or

(b) Elucidate the application of ergonomics principles on the shop floor.

15. (a) What is control? What are the different types of control?

Or

(b) How do you relate to job and personal risk factors?

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about the ABC model of behavior change.

Or

(b) What is Learning? And explain the types of learners.

17. (a) Explain in detail about interpersonal perception impression management.

Or

(b) List out the keys to getting the best from BBS coaching.

18. (a) Explain an incident and accident elaborately and relate it with the psychology of workers.

Or

(b) Explain the guidelines of safe design and postures and the method of reducing posture strain.

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