C–2017	Sub. Code
	30741

M.B.A. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Environmental 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. Define Inspection.
2. Mention the significance of workplace inspection.
3. Define Audit.
4. What is audit evidence?
5. What is EMS?
6. Define Iso 14020.
7. What is the scope of IS 14489:1998?
8. Define objectives of IS 14489:1998.
9. What is the OHSAS standard?
10. Define ISO 45001.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Discuss hazards in the workplace.

Or

(b) Explain in detail about the duration of the inspection.

12. (a) Describe types of Audits in detail.

Or

(b) Discuss audit reporting and post-audit activates.

13. (a) Discuss specification, objectives of ISO 14001.

Or

(b) Discuss implementation plan, registration, and importance of ISO 14000.

14. (a) Discuss about initiating OS and H audit with its preparation method.

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) Compare and discuss about ISO 45001 and OHSAS 1800.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Explain in detail about the purpose of the workplace inspection and inspection team.

Or

(b) Discuss collecting, interviewing, and evaluating audit evidence.

17. (a) Discuss ISO 14020 with its history and its types.

Or

(b) Explain in detail about EIA in EMS along with its methodology, scope, and benefits.

18. (a) Discuss the process of report distribution, record retention, completion, and implementation of audit report in 1S 14489:1998 Audit.

Or

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

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C–2018	Sub. Code
	30742

M.B.A. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Environment and Industrial Safety

HAZARDOUS WASTE MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define SDS.
2. What is TREM Card?
3. Name four chemical treatment of hazardous waste.
4. What are Fly ash rules?
5. Define radioactive waste management.
6. What is waste separation?
7. What is ground water contamination?
8. Define metabolism.
9. What is landfill design?
10. What is auto clave?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What are the characteristics of hazardous waste?

Or

(b) Discuss about manifest system in detail.

12. (a) Discuss about recycle plastic usage rules.

Or

(b) As a manager of a chemical manufacturing industry in India describe the step to identify the hazardous waste generated by industry.

13. (a) State the purpose of recycling solid waste.

Or

(b) Discuss about transfer station.

14. (a) What are the sources of hazardous waste?

Or

(b) What are the biological methods treatments of hazardous waste?

15. (a) Discuss about methods of risk assessment.

Or

(b) What is landfill? State the principles of landfill.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the types and sources of solid wastes.

Or

(b) Explain the methods of solid municipal waste.

17. (a) What is incineration? With the help of neat sketch explain incineration process.

Or

(b) Discuss about the sources of radioactive wastes.

18. (a) Explain about the physiochemical processes for hazardous waste.

Or

(b) Explain the steps of risk assessment.

———————

C–2019	Sub. Code
	30743

M.B.A. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Environment and Industrial Safety

SAFETY MANAGEMENT IN HIGH HAZARDOUS AREAS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. How do you identify high hazardous areas?
2. Identify the purpose of flame-proof equipment.
3. What is IEC?
4. Write short notes on fibers.
5. List the uses of pressurized equipment.
6. How do we find the faults in electrical equipment?
7. Name the production methods in hazardous areas.
8. Define potting.
9. Mention the cause of the electrical accident.
10. Define emissions.

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

Answer **all** the questions.

11. (a) Explain in detail about Class 0, 1, and 2.

Or

(b) Briefly discuss the available expert systems for troubleshooting with the required information.

12. (a) Explain in detail about OSHA.

Or

(b) Describe the emission sources with the required information.

13. (a) Discuss in detail about substations.

Or

(b) Explain the need and significance of oil-immersed equipment.

14. (a) Briefly discuss about cable seals.

Or

(b) Write short notes on fibers & optics and briefly discuss the significance of fiber optics.

15. (a) How do you identify hazardous locations? And discuss the dos and don'ts.?

Or

(b) Differentiate electrical sparks and electrical arcs.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Write the significance of hazardous industrial zones and discuss in detail about explosion-proof equipment.

Or

(b) Explain the following :

(i) NEC (ii) NFA

17. (a) What is sand? Analyze the sand-filled installation in a detailed manner.

Or

(b) What do you understand from the word "Isolate the Hazard" and explain with the required data?

18. (a) Discuss briefly about intrinsic safety principle and hot surfaces.

Or

(b) How do we maintain safety in high hazardous areas? And discuss in detail about emissions due to failure gas.

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C–2020	Sub. Code
	30744

M.B.A. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Environment and Industrial Safety

SAFETY IN INDUSTRIAL PLANT LAYOUT DESIGN

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

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

Answer **all** the questions.

1. Write the importance of site consideration in plant layout?

2. Define standards related to plant layout.

3. How to select the location for waste disposal?

4. What is penetration test?

5. What is CORELAP?

6. What is the purpose of workstations in plant layout?

7. List the types of lighting.

8. What is employee assignment inspection?

9. Name any two types of conveying equipment.

10. Write short notes on ergonomics consideration in slings.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly discuss about fire safety systems in industrial layout.

Or

(b) Explain in detail about safe effluent disposal, treatment tanks, and site consideration in plant layout.

12. (a) Write short notes on consideration of land and location of waste treatment.

Or

(b) Illustrate in detail about eddy current method with a neat sketch.

13. (a) Explain layout models in the computerized workstation model.

Or

(b) Distinguish computerized models and analytical models.

14. (a) Discuss lighting, purpose. and its importance in the industry.

Or

(b) Illustrate in detail about checklist and benefits of good housekeeping.

15. (a) Write short notes on slewing mechanisms in conveying equipment.

Or

(b) Discuss the methods to prevent common injuries during material handling.

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

Answer **all** the questions.

16. (a) Explain in detail about the plant layout design and safety system.

Or

(b) Describe the significance of standards and codes for developing plant layouts.

17. (a) Explain in detail about selection and design for the storage of chemicals.

Or

(b) Illustrate In detail about facility design, procedure, planning strategies, and material flow analysis with space requirements for computerized industrial operation.

18. (a) Explain in detail about employee assignment in housekeeping and preventive maintenance in safety.

Or

(b) Discuss general safety considerations in material handling along with design factors.

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C–2021	Sub. Code
	30745

M.B.A. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Environment and Industrial Safety

INDUSTRIAL HYGIENE AND TOXICOLOGY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define Industrial Hygiene.
2. What is toxicology?
3. Mention some blood-borne diseases.
4. What is the cause of hepatitis?
5. What is ACGIH?
6. List out stages of toxicological evaluation.
7. Define risk assessment in the workplace.
8. What is MSD?
9. Define air quality.
10. What is HVAC?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Discuss the filtering system in the human both.

Or

(b) Explain in detail about skeleton system in the human body.

12. (a) Discuss the control measures to prevent disease in the industrial workplace.

Or

(b) Illustrate in detail about the isolation of the source.

13. (a) Discuss response to toxins and their stages.

Or

(b) Explain in detail about the lung-damaging agent.

14. (a) Distinguish white finger, and trigger finger.

Or

(b) Describe factors affecting the performance of physical tasks.

15. (a) Discuss neurological tests and Audiometry.

Or

(b) Explain in detail about sampling and an analytical method for air.

Part C

$(3 \times 10 = 30)$

Answer **all** the questions.

16. (a) Explain detail about the defense system in the human body.

Or

(b) Briefly discuss about any three diseases and prevention methods in detail.

17. (a) Describe each stage of toxicological evaluation and exposure limits.

Or

(b) Explain in detail about blood damaging agents and HAZCHEM.

18. (a) Explain in detail about the design of the job and workplace with administrative control associated with industrial ergonomics.

Or

(b) Discuss in detail about lung volume and airway resistance with BEI.

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C–2022	Sub. Code
	30746

M.B.A. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Environment and Industrial Safety

SAFETY IN AVIATION AND SHIPYARD

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. List the responsibilities of port authorities.
2. Uses of advisory committees.
3. How do you safety handle the hatch beams?
4. Identify the need for safety precautions.
5. What are loose gears?
6. Define slings
7. Purpose of container side lifter.
8. List the types of cargo.
9. What is the emergency action plan?
10. Discuss shortly about safety report.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly discuss about Dock Worker.

Or

(b) Explain rules 1989 framed under the environment (protection act) with the required information.

12. (a) Explain in detail about the safe use of transport equipment.

Or

(b) Write short notes on electrical management.

13. (a) Elaborately discuss about Transtainer.

Or

(b) Describe the various methods of the rigging of derricks.

14. (a) How to use the special lift truck inside the containers safely?

Or

(b) Discuss in detail about loading and unloading.

15. (a) Briefly discuss about emergency action plans for explosions.

Or

(b) Describe in detail about container handling.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about 16 responsibilities of different agencies for health and welfare.

Or

(b) List the types of Cargo Ships and discuss them with relevant information.

17. (a) Briefly discuss how to perform the testing and examining of lifting appliances.

Or

(b) Name the transport equipment and discuss the equipment for transporting containers in detail.

18. (a) Describe the following

(i) dangerous good and

(ii) Handling of hatch coverings.

Or

(b) Analyze the importance of safety and safety precautions in aviation and shipyard discuss briefly.

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C–2521	Sub. Code
	30711

M.B.A. DEGREE EXAMINATION, APRIL 2024.

First Semester

Environment and Industrial Safety

FIRE PREVENTION AND PROTECTION

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. The three elements of the fire triangle are
   (a) Fuel, oxygen and earth
   (b) Oxygen, water and fuel
   (c) Oxygen, fuel and a heat source
   (d) Water a heat source and fuel

2. _____ can be measured without changing the composition of the substance.
   (a) Chemical properties
   (b) Physical properties
   (c) Both (a) and (b)
   (d) Neither (a) nor (b)

3. In accordance with safety guidelines, how far should the farthest point of the protected area be form the nearest fire extinguisher?
   (a) No more than 5 meters
   (b) No more than 10 meters
   (c) No more than 15 meters
   (d) No specific distance is recommended

4. What is the typical recommended charging time in years for a fire extinguisher before it should be inspected or serviced?

(a) 1 (b) 3

(c) 4 (d) 5

5. How do automatic fire alarm systems differ from manual fire alarm systems in terms of notification?

(a) Automatic systems detect and manual systems activate

(b) Automatic notifies, manual require activation

(c) Both need activation

(d) Neither notifies

6. Which type of detection system is suitable for areas with high dust or fumes where traditional smoke detectors may not be as effective?

(a) Gas detection (b) Flame detection

(c) Heat detection (d) Linear heat detection

7. In some cities, what do yellow caps on fire hydrants typically indicate?

(a) Low water pressure

(b) High water pressure

(c) Frost damage

(d) The hydrant is part of the water system but not near the main

8. Which of the following materials is the most common for fire hydrant construction?

(a) Ductile iron (b) Stainless steel

(c) Bronze (d) Cast iron

9. What is the maximum allowable travel distance for exit ways and access ways in the case of basement offices?

(a) 10.0 meters (b) 12.5 meters

(c) 15.0 meters (d) 20.0 meters

10. What does the acronym UEL stand for in the context of gas or vapor concentration?
    (a) Upper Explosive Limit
    (b) Ultimate Explosion Level
    (c) Upper Exposure Level
    (d) Unstable Emission Limit

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

Answer **all** the questions.

11. (a) Explain N fire point.

Or

(b) What are all the important safety rules that educational institutions need to follow?

12. (a) Classify Hazards.

Or

(b) Briefly discuss about rejected Extinguishers.

13. (a) Mention the general requirements for fire detection systems.

Or

(b) Analyze Aire sampling detector's need and importance.

14. (a) Explain in detail about fire pumps.

Or

(b) Discuss shortly risers.

15. (a) Explain fire escape method.

Or

(b) Define hazards and discuss about the major fire safety steps that need to be followed for special hazards.

Part C

$(5 \times 8 = 40)$

Answer **all** the questions.

16. (a) Explain in detail about the Fire Tetrahedron.

Or

(b) How can we ensure fire safety in shopping malls and garages?

17. (a) Elaborately discuss the testing of fire extinguishers with necessary data.

Or

(b) Briefly discuss about Spares.

18. (a) Heat detector – Explain.

Or

(b) Explain in detail about the need and importance of fire detection and alarm systems.

19. (a) Explore the installation and maintenance of fire hydrants in Terrace tanks.

Or

(b) Explain the following.

(i) Fire Service Inlet

(ii) Hose Reels.

20. (a) Briefly discuss the types of exits.

Or

(b) List the major precaution steps and discuss them with one example.

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C–2522	Sub. Code
	30712

M.B.A. DEGREE EXAMINATION, APRIL 2024

First Semester

Environment and Industrial Safety

ORGANIZATIONAL BEHAVIOUR

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. Organizational Behaviour is
   (a) A science
   (b) An art
   (c) A science as well as an art
   (d) None of the above

2. Communication begins with
   (a) encoding
   (b) idea origination
   (c) decoding
   (d) channel selection

3. Scope of Organizational Behaviour does not include _____
   (a) Leadership (b) Perception
   (c) Job Design (d) Technology

4. In the present context, challenges for Organizational Behaviour are

   (a) Employee expectation

   (b) Workforce diversity

   (c) Globalization

   (d) All of the above

5. Organizational Behaviour focuses on 3 Levels

   (a) Individuals, Organisation, Society

   (b) Society, Organisation, Nation

   (c) Employee, Employer, Management

   (d) Individual, Groups, Organisation

6. ———————— is recognized as the father of Human relations.

   (a) William Gilbbreth

   (b) Hendry Fayol

   (c) F.W. Taylor

   (d) Elton Mayo

7. Organizational Behaviour s a field of study backed by a body associated with growing concern for people in the workplace.

   (a) Theory (b) Research

   (c) Application (d) All of the above

8. Nowdays, a lot of stress is being put on the ———————— of the employee in the organization.

   (a) Character (b) Improvement

   (c) Behavior (d) Rewards

9. The ———————— is based on the environment. Though ———————— expectations and perception do exist, they are not needed to manager or predict Behaviour.

(a) Behaviouristic approach, Cognitive processes

(b) Cognitive processes, behaviouristic approach

(c) Social cognitive, behaviouristic approach

(d) Cognitive processes, social cognitive

10. ———————— is a Study of individual Behaviour

(a) Anthropology (b) Psychology

(c) Political science (d) Sociology

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

Answer **all** the questions.

11. (a) Explain in detail about management concepts.

Or

(b) Differentiate formal and informal organizations.

12. (a) Briefly discuss the leadership elements.

Or

(b) Criticize the ethical responsibilities of management.

13. (a) Discuss the functions of the controller.

Or

(b) Write short notes on the characteristics of the effective control system.

14. (a) Identify the factors influencing perception and discuss about it.

Or

(b) Explain group structure.

15. (a) Shortly discuss about coping strategies for stress.

Or

(b) What is the managerial implication, and explain about it?

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

Answer **all** the questions.

16. (a) Elaborately discuss the FAYOL'S Principles of management.

Or

(b) Briefly discuss the planning and forecasting needs and significance.

17. (a) Define motivation and discuss it.

Or

(b) Mention the 10 commandement of corporate social responsibilities and discuss it.

18. (a) What are all the control system's elements and brief it?

Or

(b) Discuss the roles and responsibilities of international management.

19. (a) Briefly discuss the functions of the group.

Or

(b) Elaborately discuss Hersey Blanchard's situational theory.

20. (a) Briefly discuss about work stress.

Or

(b) Mention the trends in international business and discuss them briefly.

C–2523	Sub. Code
	30713

M.B.A. DEGREE EXAMINATION, APRIL 2024.

First Semester

Environment and Industrial Safety

INDUSTRIAL SAFETY MANAGEMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 1 = 10)$

Answer **all** the questions.

1. Which fire class is associated with fires caused by solid materials like wood, paper, fabric, and some plastics?

   (a) B (b) A

   (c) C (d) K

2. What s lie initial stage of fire development where all four elements of the fire tetrahedron coalesce, and the fire begins?

   (a) Growth stage (b) Fully developed stage

   (c) Ignition stage (d) Decay stage

3. What is the minimum type of PPE required in a workplace with a potential hazard of eyes being struck by projectile objects?

   (a) Earplugs (b) Hard hat

   (c) Safety glasses (d) Face shield

4. What type of fires are Aqueous Film Forming Foams (AFFF) fire extinguishers suitable for fighting?

(a) Electrical fires

(b) Oil fires

(c) Solid fires like wood

(d) Fires in high-rise buildings

5. Why are gloves commonly used as personal protective equipment (PPE) in industrial workplace?

(a) To keep hands warm

(b) To improve grip and dexterity

(c) To protect hands from hazards and chemicals

(d) To enhance worker communication

6. Where are deluge sprinkler systems commonly used due to their rapid water discharge?

(a) Residential buildings

(b) Data centers

(c) Hazardous material storage areas

(d) Outdoor areas

7. What is the primary factor in a wet pipe sprinkler system that activates the sprinklers?

(a) Smoke detection (b) Manual activation

(c) heat (d) High-pressure water flow

8. In case of a wire break during a fire which wiring style maintains communication with most devices?

(a) Class B wiring

(b) Class A wiring

(c) Both Class A and B are equally resilient.

(d) Neither Class A nor B maintains communication after a wire break.

9. When might a worker typically need to use respiratory protection in the workplace?

(a) During regular work breaks

(b) When working in a well-ventilated area

(c) When exposed to harmful dust, chemicals, or gases

(d) When interacting with coworkers

10. What does "special workplace hazard" typically refer to?

(a) Everyday workplace tasks

(b) Routine safety inspections

(c) Unusual or unique dangers specific to a particular workplace

(d) Office work environment

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

Answer **all** the questions.

11. (a) Shortly discuss firefighting methods.

Or

(b) Differentiate accident and incident.

12. (a) Identify the need and importance of safety glasses and goggles.

Or

(b) Briefly discuss about the halogenated agent.

13. (a) Describe the prevention of hand injuries and protection methods.

Or

(b) Elaborately discuss about wet pipe system.

14. (a) Explain the need and importance of smoke detectors.

Or

(b) Explain the need and significance of skin protection.

15. (a) NFPA 72 classification of fire alarm system – explain.

Or

(b) If you are not changing clothes often, what kind of issue will happen and suggest how to protect from it.

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

Answer **all** the questions.

16. (a) Define flash points and elaborately discuss the class of fire.

Or

(b) List the types of PPE and describe in detail about PPE.

17. (a) Classify fire and elaborately discuss each fire with relevant examples.

Or

(b) Describe in detail about construction of the safety helmet.

18. (a) Explore the importance of leg protection and shortly discuss about safety shoes.

Or

(b) Shortly, discuss piping and valves.

19. (a) Name the types of body suits and discuss them briefly about it.

Or

(b) NFPA 72 Classification of fire alarm system – Explain.

20. (a) Briefly discuss about harmful contaminants and control measures with necessary data.

Or

(b) Elaborately discuss loading and unloading.

———————

C–2524	Sub. Code
	30714

M.B.A. DEGREE EXAMINATION, APRIL 2024

First Semester

Environmental and Industrial Safety

SAFETY MANAGEMENT IN CONSTRUCTION SECTOR

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Section A (10 × 1 = 10)

Answer **all** the questions.

1. Which of the following is the top priority according to the General Principles of Prevention for safety in construction design?

   (a) Use collective protective measures

   (b) Avoid risks

   (c) Combat risks at the source

   (d) Evaluate unavoidable risks

2. Why did the designer lower the air-conditioning unit height from 2.5 to 0.6 meters?

   (a) Cost reduction

   (b) Challenging maintenance

   (c) Improved safety

   (d) Aesthetic enhancement

3. What is the purpose of construction barriers in a work zone?

(a) To divert traffic away from the construction area

(b) To protect construction workers from loud noises

(c) To create an obstacle course for drivers

(d) To provide seating for workers during breaks

4. What should drivers do when approaching road construction areas at night?

(a) Use headlights and follow all work zone signs

(b) Drive at high speeds to avoid nighttime traffic

(c) Turn off their headlights to save energy

(d) Slow down during the day, bit drive at average speeds at right

5. Why does OSHA have a standard for fall protection in construction?

(a) To reduce paperwork for employers

(b) To simplify safety regulations

(c) To address the leading cause of fatalities in construction

(d) To increase construction efficiency

6. When must employers provide fall protection, as per Subpart M regulations?

(a) Only when working at heights greater than 10 feet

(b) Only when working at heights greater than 5 feet

(c) When working at heights of 6 feet or greater above a lower level

(d) When working at heights of 2 feet or greater

7. What safety measure is implemented to prevent workers from falling to lower levels?

(a) Safety nets

(b) Safety helmets

(c) Safety harnesses

(d) Guardrail systems

8. What can minimize accidents caused by limited visibility in equipment cabins?

(a) Regular maintenance

(b) Adequate mirrors and safety devices

(c) Speed reduction

(d) Increased engine power

9. What is the standard number for the "Safety Code for demolition of buildings" established by the Bureau of Indian Standards (BIS)?

(a) 4000 (b) 1320

(c) 9001 (d) 4130

10. How far should the demolition area be barricaded with respect to the height of the wall, according to safely regulations?

(a) 1.5 times (b) 3 times

(c) 2 times (d) 0.5 times

Section B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Explore the causes of fatal accidents.

Or

(b) Write the need for and importance of pre-construction meeting.

12. (a) Explain the erection of a structural framework with relevant information.

Or

(b) Describe the construction of high rise buildings.

13. (a) Explain scaffoldings.

Or

(b) List the application and importance of stairways and gangways.

14. (a) Explore the applications of concrete mixers and uses of concrete vibrators.

Or

(b) Describe the application of welding machines in the construction industry.

15. (a) Explore the importance of pre survey inspection.

Or

(b) Briefly discuss site supervision with necessary data.

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

Answer **all** the questions.

16. (a) Describe pre-contract activities with relevant data.

Or

(b) Write the need and significance of quality assurance in construction.

17. (a) What are all the necessary steps to work on contaminated sites?

Or

(b) Explore the importance and need of pre blast and post blast inspection.

18. (a) Briefly discuss the safe use of ladders.

Or

(b) Identify the role of fall arrestors and briefly discuss the safety monitoring systems.

19. (a) Explain the inspection and testing of tower cranes.

Or

(b) Elaborately discuss the manual hardling in construction.

20. (a) Define a safe clearance zone and discuss briefly about it.

Or

(b) Briefly discuss the interesting experience the construction site against any one fire accident.

———————

C–2525	Sub. Code
	30715

M.B.A. DEGREE EXAMINATION, APRIL 2024

First Semester

Environment and Industrial Safety

ENVIRONMENTAL STUDIES

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. Ecology deals with the study of
   (a) Living beings
   (b) Living and non living components
   (c) Reciprocal relationship between living and non living components
   (d) Environment

2. Energy flow in ecosystem
   (a) Unidirectional (b) Bidirectional
   (c) Multidirectional (d) None of the above

3. The source of energy in an ecosystem is
   (a) ATP (b) Sunlight
   (c) DNA (d) RNA

4. The energy produced by hydel-power plant is
   (a) Non-polluting and non renewable
   (b) Polluting and non-renewable
   (c) Non-polluting and renewable
   (d) Polluting and renewable

5. A group of individuals of a plant or animal species inhabiting a given area is called

(a) Biome (b) Population

(c) Ecosystem (d) Community

6. Conservation within the natural habitat is

(a) insitu conservation

(b) ex situ conservation

(c) invivo conservation

(d) exvivo conservation

7. Deforestation may reduce the chances of

(a) frequent landslides

(b) erosion of surface soil

(c) rainfall

(d) frequent cyclones

8. The removal of the top layer of soil is called.

(a) land slide (b) soil erosion

(c) drought (d) earthquake

9. The unfavorable alternation of environment due to human activities is termed as

(a) Ecological degradation

(b) Ecological disturbance

(c) Pollution

(d) Catastrophe

10. Noise is measured in

(a) Joule (b) Hertz

(c) Decibel (d) Sound

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Describe the importance of environmental studies.

Or

(b) What kind of public awareness is required for the protection of forests?

12. (a) List the benefits of Dams.

Or

(b) Explore the importance of renewable and non-renewable energy sources.

13. (a) Structure and function of an Ecosystem - Discuss briefly.

Or

(b) What are all the threats to biodiversity and explain with necessary information?

14. (a) How to avoid water pollution? Discuss briefly.

Or

(b) Effects of noise pollution – Discuss shortly.

15. (a) Write the need for fieldwork and its importance.

Or

(b) Explore your field experience in the study of common plants.

Part C

$(5 \times 8 = 40)$

Answer **all** the questions.

16. (a) Explore the scope of multidisciplinary environmental studies.

Or

(b) Briefly discuss the most important awareness required for humans to protect nature.

17. (a) Describe in detail about effects of using mineral resources.

Or

(b) What is a sustainable lifestyle? And briefly discuss the equitable use of resources for a sustainable lifestyle.

18. (a) Explore biodiversity at the global and national level.

Or

(b) Write short notes on food webs and discuss them briefly about it.

19. (a) Explore the effects of soil and thermal pollution.

Or

(b) Describe the causes and control measures of Air pollution with relevant information.

20. (a) What are all the necessary steps to be followed immediately in the Hill to reduce the pollution?

Or

(b) Explain a simple ecosystem with your field knowledge.

C–2526	Sub. Code 30716 (A)

M.B.A. DEGREE EXAMINATION, APRIL 2024.

First Semester

Environment and Industrial Safety

SAFETY IN PROCESS INDUSTRIES

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. What is the primary goal of process industry safety?

   (a) Maximizing profits

   (b) Ensuring employee satisfaction

   (c) Preventing accidents and incidents

   (d) Meeting production quotas

2. Which organization sets safety standards for the process industry in the United States?

   (a) OSHA (b) FDA

   (c) EPA (d) NASA

3. What does HAZOP stand for in the context of process industry safety?

(a) Hazardous Operations

(b) Hazard and Operability Study

(c) High-risk Zone Operations Plan

(d) Health and Safety Operations Protocol

4. Which term is used to describe a safety device that automatically shuts down a process in the event of a critical failure?

(a) Bypass valve (b) Safety shower

(c) Interlock system (d) Pipe valve

5. The following is (are) are generally provided with a limit switch to prevent motion beyond the preset limit.

(a) Hoists (b) Conveyors

(c) Machine tables (d) All of the above

6. What is a common method for preventing corrosion in underground pipes?

(a) Painting the pipes with bright colors

(b) Installing sacrificial anodes

(c) Using pipes made of untreated steel

(d) Increasing the water pressure in the pipes

7. In the context of offsite emergency preparedness, what does "ALOHA" stand for?

(a) Aerial Lift Operator and Handling Assessment

(b) Areal Locations of Hazardous Atmospheres

(c) Advanced Lifesaving and Outreach Hazard Algorithm

(d) Alarm for Local Onsite Hazard Assessment

8. What is the primary goal of emergency maintenance in the manufacturing industry?

(a) Minimizing the need for regular maintenance

(b) Maximizing production

(c) Ensuring the safety of personnel and minimizing downtime

(d) Reducing the overall operational costs

9. What is the most critical safety concern when dealing with LPG storage tanks?

(a) Maintaining proper tank color coding

(b) Preventing overfilling of the tanks

(c) Ensuring the tanks are equipped with advanced IoT sensor

(d) Regularly painting the tanks for corrosion prevention

10. Which of the following is a common process safety hazard in the chemical industry?

(a) Noise pollution

(b) Cold temperatures

(c) Chemical leaks or spills

(d) Water pollution

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

Answer **all** the questions.

11. (a) Explain in detail about batch reactors.

Or

(b) What are all the necessary safety steps that need to be followed in disposals?

12. (a) Distinguish pre commissioning and post commissioning.

Or

(b) Define vibration and discuss briefly about plant monitoring.

13. (a) What is a start-up operation and a shutdown operation? Discuss with necessary information.

Or

(b) Explore the importance and uses of colour coding in pipes and cylinders.

14. (a) Describe in detail about tank cleaning.

Or

(b) Explain the need and importance of online repair maintenance of protective devices.

15. (a) Explain flame arrestors and briefly discuss their importance and need of it.

Or

(b) When do we need drum storage and cylinder storage, and explore the applications of it?

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

Answer **all** the questions.

16. (a) Explain the pressure vessel design with relevant data.

Or

(b) Briefly discuss the following: (i) Fire Relief and (ii) Vent systems.

17. (a) What are all the commissioning problems that are possible in plant commissioning, and discuss them briefly.

Or

(b) Explore the need and significance of pipeline inspection.

18. (a) Describe the emergency procedures that need to be followed in the plant operations.

Or

(b) Explain the need and significance of trip systems in plant operations.

19. (a) Describe the following: (i) Purging and (ii) Cleaning.

Or

(b) Explain the offsite emergency with relevant data.

20. (a) Explain the following (i) hydrogen storage and (ii) ammonia storage.

Or

(b) Briefly discuss the loading and unloading facilities with the necessary data.

———————

C–2527

Sub. Code
30716(B)

M.B.A. DEGREE EXAMINATION, APRIL 2024.

First Semester

Environment and Industrial Safety

WORK STUDY AND ERGONOMICS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. 'Ergonomics' is related to humans.

   (a) Comfort (b) Safety

   (c) Both (a) and (b) (d) None of the above

2. The qualitative information is one which concerns the

   (a) Value of some variable

   (b) Rate of change

   (c) Condition or status of a system

   (d) The prescience or absence of some specific object

3. The most frequently used components are arranged in

   (a) Left side (b) Right side

   (c) Central location (d) Any of the above

4. In the outline process chart, the horizontal lines represent

(a) The general flow of the process

(b) Materials being introduced

(c) Both (a) and (b)

(d) None of the above

5. Two had process chart is commonly used for

(a) Repetitive operations

(b) Short operations

(c) Both (a) and (b)

(d) None of the above

6. The height of the top of the workbench should be ———— the height of the elbow of the work men.

(a) At (b) Below

(c) Above (d) Any of these

7. For controlling the rotation through more than 360 degrees, we use

(a) Knob (b) Selector

(c) Crank (d) Wheel

8. In process chart, the symbol used for storage is

(a) Circle (b) Square

(c) Arrow (d) Triangle

9. In process charts, the symbol used for inspection is

(a) Circle (b) Square

(c) Arrow (d) Triangle

10. A milk power tin being weighted as it is filled is an example of

(a) Operation cum transportation

(b) Operation cum inspection

(c) Transportation cum inspection

(d) None of the above

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

Answer **all** the questions.

11. (a) Briefly discuss the study methods.

Or

(b) List the human factors which will affect the work study.

12. (a) Discuss the application of ergonomic principles on the shop floor.

Or

(b) Define fatigue. Explain in detail about mental strain.

13. (a) Mention the types of PPE and explain to any one with the necessary information.

Or

(b) Elaborately discuss the invisible protective barriers.

14. (a) Machine guarding – Explain.

Or

(b) Write the need and significance of operator training.

15. (a) Criticize the Job risk factors in the man machine system.

Or

(b) Explain the vigilance and its importance.

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

Answer **all** the questions.

16. (a) Elaborately discuss the robotic concepts and their importance.

Or

(b) Explain the need and significance of the latest devices in work study.

17. (a) Briefly discuss the switch gear with the necessary data.

Or

(b) Explore the roles, uses and applications of work benches.

18. (a) Define PPE and briefly discuss the selection of PPE.

Or

(b) Briefly discuss the inspection and testing methods for PPE.

19. (a) Explore the roles and responsibilities of the supervisor.

Or

(b) Explain in detail about the safe use of equipments.

20. (a) Describe the types of displays with relevant information.

Or

(b) Criticize the selection and training in man machine system.

———————

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	30721

M.B.A. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Environment and Industrial Safety

EVOLUTION OF MODERN SAFETY CONCEPTS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. 'Which historical event significantly influenced the development of the modern safety movement?
   (a) The Triangle Shirtwaist Factory Fire
   (b) The Industrial Revolution
   (c) The Great Depression
   (d) The Black Death
2. Incident recall techniques primarily aim to
   (a) Assign blame to individuals
   (b) Prevent future accidents
   (c) Conceal information
   (d) Create a culture of fear among workers
3. Which safety management theory emphasizes the importance of individual behavior in preventing accidents?
   (a) Hierarchy of Controls
   (b) Behavior-Based Safety (BBS)
   (c) Safety Culture
   (d) Zero Accident Theory

4. The Heinrich accident triangle is associated with which safety management theory?

(a) Hierarchy of Controls

(b) Behavior-Based Safety (BBS)

(c) Heinrich's Domino Theory

(d) Zero Accident Theory

5. Which safety management theory focuses on eliminating hazards at their source through engineering controls?

(a) Hierarchy of Controls

(b) Behavior-Based Safety (BBS)

(c) Safety Culture

(d) Zero Accident Theory

6. Which stage of risk management involves systematically identifying potential hazards in the workplace?

(a) Risk Analysis (b) Hazard Identification

(c) Risk Assessment (d) FMEA

7. What is the below criterion appropriate for a safe environment for an employee?

(a) Maximum working area

(b) Normal working area

(c) Minimal working area

(d) Any of the above

8. The most frequently used components are arranged in ———— Side.

(a) Left (b) Right

(c) Centre (d) Any side

9. What is the first priority when a large number of controls and displays are to be arranged,

(a) Primary visual task

(b) Primary controls

(c) Better controls-display

(d) Location of frequently used items

10. The height of the top of the workbench should be ———— the height of the elbow of the workmen.

(a) At (b) Below

(c) Above (d) Any of these

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

Answer **all** the questions.

11. (a) Write short notes on the history of the safety movement.

Or

(b) Explain in detail about safety sampling.

12. (a) Name the management theories and explain the McGregor's theory of Y.

Or

(b) Shortly discuss about the Deming cycle and its applications.

13. (a) Briefly discuss the quantitative risk analysis procedures.

Or

(b) Explain — risk control.

14. (a) Describe human factors theory.

Or

(b) Mention the accident investigation techniques and briefly discuss them.

15. (a) Define optimization and explore optimization in reliability.

Or

(b) Write short notes on the mean failure rate.

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

Answer **all** the questions.

16. (a) Briefly discuss about job safety analysis.

Or

(b) What are Incident Recall Techniques (IRT)? Explain with relevant information.

17. (a) Briefly discuss about chaos theory and management styles.

Or

(b) Describe the following: (i) safety needs and (ii) physiological needs.

18. (a) How do you perform hazard identification? Discuss briefly.

Or

(b) What is FTA and ETA? Explain the required information.

19. (a) Identify the Purpose of accident investigation and briefly discuss the problem-solving techniques.

Or

(b) Explain the following: (i) Near miss relationship (ii) report investigation.

20. (a) Briefly discuss about failure data analysis.

Or

(b) Explain the product development methods and the importance of life testing.

———————

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M.B.A. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Environment and Industrial Safety

EHS LEGISLATIONS

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. Factories Act on

   (a) 1948 (b) 1950

   (c) 1958 (d) 2000

2. Tamil Nadu Factories Rules on

   (a) 1958 (b) 1960

   (c) 1950 (d) 2010

3. Environment Act on

   (a) 1950 (b) 1970

   (c) 1975 (d) 1986

4. Biomedical waste Rules on

   (a) 1970 (b) 1989

   (c) 2000 (d) 1950

5. Hazardous chemical rules on

(a) 1989 (b) 1950

(c) 2015 (d) 2000

6. Indian Boiler Act on

(a) 1923 (b) 1950

(c) 1975 (d) 1980

7. Mines Act on

(a) 1960 (b) 1952

(c) 1940 (d) 1938

8. Which of the following activities requires a license under the Pesticide Act 1968?

(a) Using a pesticide to control pests

(b) Selling pesticides commercially

(c) Transporting a personal supply

(d) Manufacturing natural pesticides

9. Environmental policy and management defined by

(a) ISO 14000 (b) ISO 15000

(c) ISO 16001 (d) ISO 12000

10. Which standard assists organizations in managing and controlling their health and safety risks.

(a) OHSAS 18000 (b) OHSAS 15000

(c) OHSAS 3000 (d) OHSAS 2000

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Working hours in Factories Act 1948 – discuss shortly.

Or

(b) Briefly discuss the penalties as per the Factories Act 1948.

12. (a) Explore the methods of biomedical waste management.

Or

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

13. (a) Narrate the importance of notification of significant accidents.

Or

(b) Shortly, discuss about safety reports.

14. (a) How to handle hazardous wastes?

Or

(b) Criticize – toxic chemicals storage and handling methods.

15. (a) Write short notes on international acts.

Or

(b) Briefly discuss the international health laws.

Part C (5 × 8 = 40)

Answer **all** the questions.

16. (a) Briefly discuss the Tamil Nadu factories rules 1950 under safety.

Or

(b) Explain the heath chapters of the Factories Act 1948.

17. (a) Elaborately discuss the Management and handling rules for the batteries as per 2001.

Or

(b) Narrate the prevention and control measures of air Pollution.

18. (a) Distinguish off-site plan preparation and on-site plan preparation.

Or

(b) What are toxic chemicals? Briefly discuss the storage and handling of toxic chemicals.

19. (a) Briefly discuss the Indian Boiler Act 1923.

Or

(b) Explain the Explosives Act 1983

20. (a) Enumerate the Health Act of the USA.

Or

(b) What is ANSI? And briefly discuss about ISO 14000.

———————

C–2530	Sub. Code
	30723

M.B.A. DEGREE EXAMINATION, APRIL 2024

Second Semester

Environment and Industrial Safety

PROCESS SAFETY MANAGEMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. ———— is the state in which the risk of harm by accident to persons can be prevented.

   (a) Safety (b) Work

   (c) Attitude (d) Place

2. Philosophy study of the fundamental nature of an attitude that acts as a guiding principle for behaviour

   (a) Behaviour (b) Smell

   (c) Knowledge (d) None of above

3. ———— safety committee should be constituted in every factory.

   (a) House (b) Plant

   (c) Work (d) None of above

4. Organizations should also evaluate the workers at regular intervals.

(a) Monitor (b) Repair

(c) Share (d) Skill

5. Unsafe acts may be the result of a lack of skill on the part of the employee; certain bodily defects and wrong attitudes.

(a) Knowledge (b) Innovative

(c) Reuse (d) Recycle

6. ———— is the main cause of accidents.

(a) Data error (b) Physical error

(c) Human error (d) Chemical error

7. ———— of risk provides a calculated frequency of injuries and a measurement of the seriousness of the injury.

(a) Measurement (b) Map

(c) Data (d) Information

8. ———— are generally agreed to be multicasual.

(a) Harm (b) Accidents

(c) Work (d) None of the above

9. Safety Management is ———— identification system.

(a) Control (b) Hazard

(c) Skill (d) None of the above

10. ———— management, states can manage their safety activities in a more disciplined, integrative and focused manner.

(a) Non hazardous (b) Working

(c) Safety (d) All of above

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) What is a block flow diagram? Explain with one example.

Or

(b) Briefly discuss about the safety systems.

12. (a) Explain the Process Hazard Analysis team and findings.

Or

(b) Describe the need for and importance of refresher training.

13. (a) Define deficiency and explain the equipment deficiencies.

Or

(b) What is pre-startup? Review and explore its activities.

14. (a) What is the need of investigation?

Or

(b) Explain the importance of employee participation.

15. (a) What is a hot work permit? Discuss the codes.

Or

(b) Shortly discuss about emergency planning and response.

Part C (5 × 8 = 40)

Answer **all** the questions.

16. (a) Elaborately discuss the hazards of regulated substances.

Or

(b) Explain energy balances and relief system design.

17. (a) Briefly discuss the following :

(i) HAZOP

(ii) FMEA

Or

(b) Explore the elements of the operating procedure.

18. (a) Describe compliance audits with suitable examples.

Or

(b) What is meant by management of change? Briefly discuss the steps with one example.

19. (a) Discuss the need for employee participation and explore the benefits of it.

Or

(b) Explain — investigation questionnaire.

20. (a) Briefly discuss the hot work permit.

Or

(b) Explore the responsibilities of contractor employers.

C–2531	Sub. Code
	30724

M.B.A. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Environment and Industrial Safety

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. Under the OSH Act, employers are responsible for providing a ————————.

   (a) Safe workplace (b) Land

   (c) Insurance (d) Estimation

2. OSHA was created to ————————.

   (a) Ecological development

   (b) Data analysis

   (c) To reduce hazards

   (d) EIA analysis

3. Which act establishes responsibilities and rights for employers and employees?

   (a) OSHA (b) CERCLA

   (c) RCRA (d) SARA

4. OSHA is part of the ———————— Department of Labour.

(a) Australia (b) India

(c) US (d) UK

5. In the case of a fatal accident, when a report should be filed for the nearest OSHA office within ———————— hrs.

(a) 8 (b) 24

(c) 50 (d) 64

6. OSHA assignment is to set standards and conduct ————————.

(a) Inspection (b) Tests

(c) Analysis (d) Estimation

7. OSHA ensures that employees have been provided with ————————.

(a) PPE (b) Insurance

(c) Security (d) Job

8. Hazard communication in OSHA conducts ————————.

(a) Strength analysis (b) Toxic exposure

(c) Chemical analysis (d) Hazard evaluations

9. The OSHA Form 300 is an injury/illness log

(a) Injury (b) Analysis

(c) Finance (d) Assistance

10. When should be the form 300 A posted?

(a) January (b) February

(c) April (d) May

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Briefly discuss the work-related disease.

Or

(b) What is toxicology? And discuss the significance of industrial toxicology.

12. (a) Explain the evaluation of physical hazards.

Or

(b) Define stress and briefly discuss about thermal stress and its effects.

13. (a) Describe the role of the first aider.

Or

(b) List the basic anatomical terms and explain anyone.

14. (a) Classify fractures and briefly discuss about dislocation.

Or

(b) Briefly discuss the uses of stretchers.

15. (a) Explore the elements of industrial psychology.

Or

(b) Enumerate the individual and employer responsibilities.

Part C (5 × 8 = 40)

Answer **all** the questions.

16. (a) Briefly discuss the personal monitoring devices.

Or

(b) Explain the ultraviolet and infrared associated hazards and their prevention methods.

17. (a) Describe in detail about the biological effects of noise exposure and control measures.

Or

(b) Identify the purpose of lighting and explain the design and maintenance of it.

18. (a) Explore the structure and functions of musculoskeletal systems.

Or

(b) Elaborately discuss the first aid principles.

19. (a) List the possibility of eye injuries and explain in detail about foreign bodies in eye and eye trauma.

Or

(b) Mention the types of wounds and briefly discuss them.

20. (a) Explain the following :

(i) alcoholism in industry and

(ii) drug abuse.

Or

(b) Elaborately discuss the behaviour based safety.

———————

C–2532	Sub. Code 30725

M.B.A. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Environment and Industrial Safety

HAZARD IDENTIFICATION, RISK ASSESSMENT AND RISK CONTROL

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. What is the main purpose of hazard identification?

   (a) To reduce probability of occurrence

   (b) For better risk management

   (c) To characterize adverse effect of toxins

   (d) To minimize the effect of a consequence

2. The process determines whether exposure to a chemical can increase the incidence of adverse health effects.

   (a) Hazard identification

   (b) Exposure assessment

   (c) Toxicity assessment

   (d) Risk characterization

3. Which of the following data is not required for hazard identification?

(a) Land use

(b) Affected population

(c) Contaminant levels

(d) Estimation of risk

4. ———— is defined as the probability of suffering harm or loss.

(a) Chemical

(b) Hazard

(c) Health

(d) Machine

5. Why does site history have to be considered for hazard identification?

(a) For determination of remedial actions

(b) To calculate carcinogenic exposure

(c) To know the probable source and causes of contamination on site

(d) To estimate the risk

6. What is the first stage of risk assessment?

(a) Exposure assessment

(b) Hazard identification

(c) Toxicity study

(d) Risk characterization

7. What is the main objective of risk assessment?

(a) To know source of pollutants

(b) Hazard management

(c) Remediation of contaminated sites

(d) To evaluate hazards and minimize the risks

8. When can an incident be called hazardous?

(a) Stressor has the potential to cause harm to humans and ecological systems

(b) Poses a threat to surrounding

(c) Monitoring is failed

(d) Outburst of chemicals

9. The purpose of risk management is to identify potential problems before they occur so that risk-handling activities may be planned.

(a) False

(b) True

(c) Maybe

(d) It depends

10. Hazard identification mainly focuses on

(a) Chemical pathway

(b) Chemical analysis

(c) Chemical exposure

(d) Chemical source and concentration

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

Answer **all** the questions.

11. (a) Define risk. Criticize the significance of the risk register.

Or

(b) What is a hazard, and list the benefits of the safety warning system?

12. (a) Briefly discuss the Need for and importance of risk analysis.

Or

(b) What is cost benefit analysis? Briefly discuss it.

13. (a) Distinguish HAZOP and HAZAN.

Or

(b) List the types of Failure Mode Effect Analysis and briefly discuss about it.

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

Or

(b) Write short notes on quantitative risk assessment.

15. (a) Explain the credibility of risk assessment techniques.

Or

(b) Elaborately discuss the sources for hazard analysis.

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

Answer **all** the questions.

16. (a) What is ALARP, and briefly discuss the concept of ALARP and its applications.

Or

(b) Explain in detail about hazard charactization.

17. (a) Describe the elements of risk analysis and mention the benefits of risk analysis.

Or

(b) Briefly discuss about job safety analysis.

18. (a) Explore the procedure of FMEA and mention the types of it.

Or

(b) Elaborately discuss Risk Priority Number and Event tree analysis.

19. (a) Why do we need to perform a HIRA study? Discuss in detail about implementation and monitoring.

Or

(b) Briefly discuss the specific site assessment and explain the benefits of it.

20. (a) What is a disaster? Briefly discuss the Bhopal disaster and its effects.

Or

(b) Mexico disaster – explore your understanding with necessary data.

———————

C–2533	Sub. Code
	30726A

M.B.A. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Environment and Industrial Safety

TEXTILE SAFETY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. Which of the following is a common hazard in the textile industry due to the presence of fibers and dust?
   (a) Heat stress (b) Electrocution
   (c) Respiratory issues (d) Noise pollution

2. In textile manufacturing, what type of hazard can arise from the extensive use of machinery and moving parts?
   (a) Chemical exposure
   (b) Ergonomic injuries
   (c) Fire hazards
   (d) Mechanical injuries

3. What is the primary concern regarding chemical hazards in the textile industry?
   (a) Respiratory problems
   (b) Eye injuries
   (c) Skin irritation
   (d) All of the above

4. Which type of hazard is associated with poorly maintained or faulty electrical equipment in textile factories?

(a) Thermal hazards (b) Noise hazards

(c) Electrical hazards (d) Fall hazards

5. What safety measures can help prevent fire hazards in textile factories?

(a) Regular machine inspection

(b) Proper storage of flammable materials

(c) Adequate lighting in work areas

(d) Using non-ergonomic equipment

6. In the context of textile industry safety, what does PPE stand for?

(a) Personal Protective Equipment

(b) Preventive Plant Engineering

(c) Productive Process Enhancement

(d) Production Planning Efficiency

7. What type of hazard is associated with prolonged exposure to loud machinery in textile factories?

(a) Chemical hazards

(b) Noise hazards

(c) Electrical hazards

(d) Ergonomic hazards

8. What safety measures can help mitigate ergonomic hazards for workers in textile factories?

(a) Providing regular breaks

(b) Using adjustable workstations

(c) Offering ergonomic training

(d) All of the above

9. What type of hazard is associated with improper lifting techniques in textile factories?

(a) Chemical hazards (b) Ergonomic hazards

(c) Noise hazards (d) Electrical hazards

10. In textile factories, what is the primary concern regarding thermal hazards?

(a) Burns from hot machinery

(b) Exposure to extreme cold temperatures

(c) Exposure to loud noises

(d) Chemical exposure

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

Answer **all** the questions.

11. (a) State and explain short staple spinning.

Or

(b) Briefly discuss the rotor spinning.

12. (a) Shortly, discuss about sizing processes.

Or

(b) Define knitting and explain knitting machines.

13. (a) Write short notes on scouring.

Or

(b) Narrate the dyeing process with suitable materials.

14. (a) Mention and explain the health hazards related to dust in the textile industry and its prevention methods.

Or

(b) Briefly discuss the need for personal protective equipment and its applications in textile industries.

15. (a) Explore the safety status of the textile industry.

Or

(b) Shortly discuss about effluent treatment.

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

Answer **all** the questions.

16. (a) Briefly discuss jute spinning and jute fabric manufacturing.

Or

(b) Explain the following: (i) carding and (ii) combing.

17. (a) Distinguish shuttle loom and shuttle less looms.

Or

(b) State the purpose and applications of knitting machines and mention the advantages and disadvantages.

18. (a) What is bleaching? Explain the faults of bleaching.

Or

(b) Mention the chemicals used in scouring and briefly discuss the effects of scouring.

19. (a) List the examples of occupational diseases and state the significance and prevention methods.

Or

(b) Explore the work environment hazards and their control measures.

20. (a) Explain the present safety status of the Indian textile industry.

Or

(b) Describe the waste disposal methods in the textile industry.

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M.B.A. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Environment and Industrial Safety

SAFETY IN MINES

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. What is the primary purpose of wearing Personal Protective Equipment (PPE) in mining operations?
   (a) To improve miners' physical fitness
   (b) To reduce mining production costs
   (c) To protect against potential hazards and injuries
   (d) To enhance miners' appearance
2. What is the purpose of hazard assessments in mining?
   (a) To determine miners' job roles
   (b) To promote team work among miners
   (c) To identify potential risks and implement control measures
   (d) To increase mining productivity
3. What kind of training do miners undergo to improve safety knowledge and skills?
   (a) Mining training (b) Leadership training
   (c) First aid training (d) Marketing training

4. Why is adequate ventilation important in mining?
   (a) To reduce mining expenses
   (b) To remove harmful gases, dust, and fumes from the mine
   (c) To increase visibility in the mine
   (d) To maintain pleasant temperatures for miners

5. What is the purpose of emergency response plans in mining operations?
   (a) To reduce mining downtime
   (b) To provide guidelines for dealing with potential accidents and emergencies
   (c) To create excitement and drama during drills
   (d) To test miners' ability to respond to emergencies

6. What type of equipment is used to suppress fires in mining operations?
   (a) Firecrackers
   (b) Fire extinguishers and firefighting equipment
   (c) Candles
   (d) Fireworks

7. What procedure should be followed before performing maintenance or repairs on equipment in mining?
   (a) Equipment testing
   (b) Replacing the equipment
   (c) Lockout-Tag out (LOTO)
   (d) Ignoring equipment warnings

8. Why should mining machinery undergo regular inspections and maintenance?
   (a) To increase mining revenue
   (b) To prevent mechanical failures and accidents
   (c) To reduce the need for new equipment purchases
   (d) To improve miners' equipment operation skills

9. What types of communication systems are essential in mining operations?

(a) Telegrams

(b) Smoke signals

(c) Two-way radios and signalling devices

(d) Telephones

10. What is the purpose of a fall protection system in mining?

(a) To prevent miners from falling asleep during work

(b) To prevent miners from falling ill

(c) To prevent miners from falling while working at heights

(d) To prevent miners from falling into water bodies

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

Answer **all** the questions.

11. (a) Briefly discuss the causes and prevention of accidents caused by heavy machinery.

Or

(b) Explore the handling methods of explosives.

12. (a) Explore the effect of gases in underground mines.

Or

(b) Describe in detail gas detectors and their merits and demerits.

13. (a) Shortly discuss about trapping.

Or

(b) Briefly discuss the causes of electrical hazards and their prevention methods.

14. (a) Explain the basic concept of risk and hazard potential.

Or

(b) Describe in detail the Failure Mode Effect Analysis.

15. (a) Classify accidents and briefly discuss about any one accident with a suitable example.

Or

(b) What is disaster management? Explain with relevant data.

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

Answer **all** the questions.

16. (a) Enumerate the causes of accidents due to electrical systems and briefly discuss the accident prevention methods.

Or

(b) Explain the following: (i) pumping, (ii) hand tools

17. (a) Briefly discuss the causes of roof fall in mining and its prevention methods.

Or

(b) What is winding in mining? Explore the underground mining transportation system.

18. (a) Describe the need for and importance of ventilation in tunnelling.

Or

(b) Explain in detail the causes and control measures of atmospheric pollution due to dust.

19. (a) Explore the elements of risk assessment.

Or

(b) What is fuzzy model risk assessment? Explain the best model for risk analysis.

20. (a) Briefly discuss the following: (i) serious accidents and (ii) reportable accidents.

Or

(b) Elaborately discuss the recent development of safety engineering approaches for mines.

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M.B.A. DEGREE EXAMINATION, APRIL 2024.

Second Semester

Environment and Industrial Safety

TRANSPORT SAFETY

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** the questions.

1. Where is the largest blind spot on a large truck?

   (a) Behind (b) The right side

   (c) The left side (d) None

2. What is a safe travelling distance for a car when following a truck on the highway?

   (a) 20 m (b) 800 m

   (c) 40 m (d) 200 m

3. TREM issued for what type of goods?

   (a) Food (b) Milk

   (c) Hazardous (d) Glass

4. Which factor causes the greatest number of car crashes?

   (a) Unsafe speed (b) Falling asleep at the wheel

   (c) Driver inattention (d) Alcohol impairment

5. Which of the following is a primary consideration when transporting hazardous goods?

(a) Availability of rest stops

(b) Proper labelling

(c) Weight of the goods

(d) Speed of delivery

6. What is the maximum speed limit for trucks carrying hazardous materials on highways in most countries?

(a) 70–90 kmph (b) 150–170 kmph

(c) 10–30 kmph (d) No limit

7. What does a red traffic light indicate?

(a) Yield (b) Slow down

(c) Go (d) Stop

8. To ensure road safety, truck drivers should avoid:

(a) Maintaining a safe following distance

(b) Regular vehicle inspections

(c) Using turn signals

(d) Frequent lane changes

9. What precautions should truck drivers take during adverse weather conditions to ensure safety?

(a) Avoid using headlights to conserve battery power

(b) Drive closer to other vehicles for better visibility

(c) Reduce speed and increase the following distance

(d) Increase speed to reach the destination faster

10. In a repair shop, what should be done before working on a vehicle to ensure safety?
    (a) Ignore warning signs
    (b) Increase vehicle speed
    (c) Check for leaks and spills
    (d) Wear protective gloves

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

Answer **all** the questions.

11. (a) Briefly discuss about the benefits of TREM.

Or

(b) Explain the responsibilities of the driver.

12. (a) How can you improve the safety of roads? Briefly discuss the factors which play a major role in the improvement of safety on roads.

Or

(b) Why do we need motor vehicle insurance? Narrate the significance of it.

13. (a) Express the need for and importance of a driver's safety program.

Or

(b) Explain the worker's act in detail.

14. (a) What is skidding? Briefly discuss about the restriction of speeds.

Or

(b) Write short notes on clearance on road safety.

15. (a) Shortly discuss about safe driving.

Or

(b) Why do we need to change the batteries? Explain the charging of batteries.

Part C (5 × 8 = 40)

Answer **all** the questions.

16. (a) List the warning symbols and explain each symbol with necessary sketches.

Or

(b) When do we need to go for a vehicle inspection and describe the vehicle maintenance methods?

17. (a) Briefly discuss the role of drivers and narrate the causes and prevention methods of accidents caused by drivers.

Or

(b) How many cars can a person own in India? Explain the Motor Vehicles Act.

18. (a) List the essential slogans required for a driver's cabin and explain them.

Or

(b) Describe in detail about speed and fuel conservation.

19. (a) Briefly discuss traffic rules and control lines for road safety.

Or

(b) Elaborately discuss about plant railway.

20. (a) Explore in detail the servicing and maintenance of equipment.

Or

(b) Briefly discuss about the handling of gasoline.

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