

Paper I: Occupational Health and Environmental Safety Management

1. OSHA assignment is to set standards and conduct _____
 - a) Inspections
 - b) Tests
 - c) Analysis
 - d) Estimation
2. OSHA ensures that employees have been provided with _____
 - a) Job
 - b) PPE
 - c) Insurance
 - d) Security
3. The Primary Goal of Occupational Health is about:
 - a) Protecting the safety, health and welfare of people engaged in work
 - b) Protecting co-workers, family members employers, suppliers, nearby communities and other members of the public who are influenced by the workplace environment
 - c) Protecting the natural environment
 - d) None of these
4. Physical Hazards in the workplace refers to:
 - a) Poor ventilation, poor illumination
 - b) Substances that pose a threat to living organisms, for example bacteria,
 - c) Chemical hazards
 - d) Aromatic compounds
5. An accident is:
 - a) An unsafe act
 - b) An unsafe condition
 - c) Unplanned, something that happens by chance
 - d) None of these
6. The design and study of work environment to address physical and psychological demands of individuals is classified as :
 - a) Ergonomics
 - b) cumulative trauma disorder
 - c) Tag out regulations
 - d) Tag in regulations
7. Estimation of short-term and long term exposure are usually in terms of _____
 - a) Doses by exposure rate
 - b) Susceptibility
 - c) Population
 - d) Genetics
8. Which of the following chemical is responsible for London smog episode?
 - a) Sulphur dioxide
 - b) Sulphur
 - c) Sulphur trioxide
 - d) Sulphur oxide
9. According to CPCB the major criteria considered for selection of technologies are _____
 - a) Waste quantity
 - b) Chemical analysis
 - c) Lead content
 - d) Mercury content
10. Capable of easily igniting and rapidly burning; used to describe a fuel with a flash point at or above 100 f (38 C).

20. _____ is an example of indirect measurement in exposure assessment.
- a) Environmental measurement
 - b) Personal measurement
 - c) Biological exposure monitoring
 - d) Biological effect monitoring
21. Open burning to recover copper wires causes _____
- a) Silicosis
 - b) Lung disease
 - c) Kidney inflammation
 - d) PAH exposure
22. Which of the following chemical is responsible for acute lung disease from Bhopal gas tragedy?
- a) Methylisocyanate
 - b) Methylisocyanade
 - c) Methyl
 - d) Methylcyanate
23. The culture created when the whole company sees the value of a safe work environment.
- a) Confined Space
 - b) Management System
 - c) Accident
 - d) Safety culture
24. When using a fire extinguisher, you should follow the PASS acronym. PASS stands for...
- a) Pull (the pin), aim, sweep, squeeze
 - b) Pull (the pin), aim, squeeze, sweep
 - c) Pin (the pull) after shooting solid
 - d) Pull, aim, squeeze, shoot
25. The design and study of work environment to address physical and psychological demands of individuals is classified as
- a) ergonomics
 - b) cumulative trauma disorders
 - c) Tag out regulations
 - d) tag in regulations

Occupational safety and its management
Answer Key

Question Number	Answer	Question Number	Answer	Question Number	Answer
1	a	11	c	21	a
2	b	12	b	22	a
3	a	13	b	23	d
4	a	14	c	24	b
5	c	15	d	25	a
6	a	16	d		
7	a	17	c		
8	a	18	c		
9	a	19	b		
10	c	20	d		

Paper II- Safety at workplace

1. Accidents arising out of hand tool due to the:
 - a. Using the wrong tools
 - b. Using tools which are in poor condition
 - c. Keeping tools in unsafe places
 - d. All of the above

2. . ----- Are used to measuring sound from individual machines or sound sources
 - a. Sound level meter
 - b. Dosemeter
 - c. Audiometer
 - d. All of the above

3. White finger is an occupational disease caused by -----
 - a. Noise
 - b. Vibration
 - c. Chemical
 - d. All of the above

- 4.. Machine guards are used to:
 - a. prevent injuries
 - b. Protect the operator
 - c. Protect people in the area
 - d. All of the above

5. Interlocked guards:
 - a. Require a key
 - b. Shut off the machine if they are opened
 - c. Open automatically if the machine stops
 - d. Are battery operated

6. Poor machine guarding:
 - a. Means that the machine is not very hazardous
 - b. Can give operators a false sense of security
 - c. Is never possible with new machines
 - d. Both a & c

7. When using sharp tool you must not
 - a. Cut toward the body and face.
 - b. Transport them with the blade down
 - c. Try to catch them when they fall
 - d. All of the above

8. Which of the following is used as safety device in machines
 - a. Fail safe
 - b. Safety Interlocks
 - c. Limit Switches
 - d. All of the above

9. Accidents arising out of hand tool due to the:

- a. Using the wrong tools
- b. Using tools which are in poor condition
- c. Keeping tools in unsafe places
- d. All of the above

10. While working with CNC machine which of the following PPE'S need to be wear

- a. Safety shoes
- b. Ear protection
- c. Safety glasses
- d. All of the above

11. 37. Illumination is measured by using-----

- a. Lux meter
- b. Thermometer
- c. ammeter
- d. All of the above

12. Poor lightening at work place can cause:

- a. Slips
- b. Trips
- c. Falls
- d. All of the above

13. ----- are elements in the fire triangle.

- a. Hydrogen, heat and fuel
- b. Oxygen, heat and fuel
- c. Foam, heat and fuel
- d. All of the above

14. Methods to quench the fire includes:

- a. Starvation
- b. Blanketing
- c. Cooling
- d. All of the above

15. Radiation which damages health is called -----

- a. Non ionizing
- b. Ionizing
- c. Both a & b
- d. all of the above

16. Which of these radiations will be completely stopped by a piece of paper?

- a. Alpha radiation
- b. X-rays
- c. Gamma radiations
- d. Neutrons

17. Which of the following protective equipment is used for prevention of radiation exposure:

- a. Lead apron
- b. Lead thyroid collar
- c. Lead gloves
- d. All of the above

18. Which unit describes a person's dose resulting from his exposure to radiation?

- a. Sievert, Sv
- b. Becquerel, Bq
- c. Gray , Gy
- d. Rad

19. ----- are designed to detect heat from fire and automatically activated.

- a. Sprinklers
- b. Smoke detectors
- c. ARD
- d. All of the above

20. Adequate lightening in the work place can avoid

- a. Slips
- b. Falls
- c. Trips
- d. All of the above

21. While working with CNC machine which of the following PPE'S need to be wear

- a. Safety shoes
- b. Ear protection
- c. Safety glasses
- d. All of the above

22.Fixed guards:

- a. Are permanently attached to the machine.
- b. Do not need to be adjusted for different operations.
- c. Are difficult to remove or bypass and act as physical barrier between the operator and hazard.
- d. All of the above.

23. The most effective way to prevent hearing loss at work is to:

- a. Monitor your hearing loss over time with a routine hearing test
- b. Always wear ear protection everywhere you go
- c. Monitor noise level through engineering and administrative controls to minimize exposure
- d. None of the above

24.----- Is used to checking hearing of noise exposed employees

- a. Audiometers
- b. Dosemeter
- c. Sound level meter
- d. All of the above

25. Noise induced hearing loss is most marked at about

- a. 2000 Hz
- b. 4000 Hz
- c. 1000 Hz
- d. more than 5000 Hz

Safety at workplace

Answer Key

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1	d	11	a	21	d
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Paper III- Accident Prevention Technique

1. Arc blast is caused by:

- a) Poor contact within electrical wire splices
- b) Radio frequency emissions from high-power transmitters
- c) Discharge of high electrical current through open air
- d) Ionization of gases near high-voltage electrical conductors

2. Most accidents are caused by

- a) Bad weather
- b) People
- c) Equipment
- d) Poor directions

3. Personal Protective Equipment such as safety shoes, glove and safety glasses

- a) . Can be worn if I choose
- b) Are specifically required for some jobs
- c) . Uncomfortable and not necessary
- d) Belong to me

4. Safety Signs provide

- a) Information about hazardous areas
- b) Caution information
- c) Warnings
- d) All of the above

5. The _____ process determines whether exposure to a chemical can increase the incidence of adverse health effect.

- a) Hazard identification
- b) Exposure assessment
- c) Toxicity assessment
- d) Risk characterization

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

- a) Land use
- b) Contaminant levels
- c) Affected population
- d) Estimation of risk

7 . What is the main objective of risk assessment?

- a) To evaluate hazard and minimize the risks
- b) Remediation of contaminated sites
- c) Hazard management
- d) To know source of pollutants

8 . What is the first stage of risk assessment?

- a) Exposure assessment
- b) Hazard identification
- c) Toxicity study
- d) Risk characterization

9. What is FTA?

- a) free tree analysis
- b) fault tree analysis
- c) fault top analysis
- d) free top analysis

10. What is FMEA?

- a) fast mode and effect analysis b) front mode and effect analysis
- c) false mode and effect analysis d) failure mode and effect analysis

11. Analysis of incidents that give customers either particular satisfaction or dissatisfaction is:

- a) product liability b) failure mode and effect analysis
- c) critical incident analysis d) fault tree analysis

12. For household wiring and small units, the following should be used for safety measure

- a) MCB b) ACB c) OCB d) MCCB

13. Check list for Job Safety Analysis (JSA) consists of

- a) Work area, material, machine, tools
- b) Men, machine, material, tools
- c) Men, machine, work area, tools
- d) Men, work area. Material, tools

14. The Primary Goal of Occupational Health is about:

- a) Protecting the safety, health and welfare of people engaged in work
- b) Protecting co-workers, family members employers, suppliers, nearby communities and other members of the public who are influenced by the workplace environment
- c) Protecting the natural environment
- d) none of these

15. The Ministry responsible for Occupational Health and Safety in terms of the Labour Act of 1992 is:

- a) Ministry of Health and Social Services b) Ministry of Labour
- c) Namibia Employers Federation d) all of these

16. An accident is:

- a) An unsafe act b) An unsafe condition
- c) Unplanned, something that happens by chance d) a and b

17. Workers must _____ PPE before each use.

- a) . Categorize b) Inspect c) Tag out d) Mark

18. . Safety footwear must meet standards set by ANSI and the _____.

- a) American Society for Testing and Materials (ASTM)
- b) International Chemical Workers Union (ICWU)
- c) National Fire Protection Association (NFPA)
- d) National Safety Commission (NSC)

19. _____ is one of the four main ways workers can be exposed to hazardous substances.

- a) Inhalation
- b) Forklift operation
- c) Fall protection inspection
- d) Heavy lifting

20. Smoke is a (n) _____.

- a) Ergonomic hazard
- b) Blood borne hazard
- c) Biological hazard
- d) Air contaminant

21. _____ filter out contaminants using a cartridge.

- a) APRs
- b) PAPRs
- c) SCBAs
- d) Particulate respirators

22. . A specific area is not normally categorized as restricted. Who makes the final decision whether this area should be categorized as restricted?

- a) area superintendent.
- b) 29 CFR 1910.100.
- c) loss prevention.
- d) department manager

23. What is listed on a work permit?

- a) OSHA safety precautions.
- b) Minimum safety precaution.
- c) Maximum safety precaution.
- d) Government safety precaution

24. What two things must the issuer do before issuing a work permit?

- a) Close the work permit and check the receiver's certificate.
- b) Check the receiver's certificate and get countersignatures.
- c) Renew certificates and get countersignatures.
- d) Provide first aid and assign a fire watch

25. In which of the following layout types, materials are fed into the first machine and finished products come out of the last machine?

- a) Product layout
- b) Process layout

Accident Prevention Techniques

Answer Key

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Paper IV Environmental Legislation and Management

1. In Factory Act 1948 Chapter IV is related to?
 - a. Environment b. Health
 - c. Safety d. Worker

2. In which year was the Indian boiler act enacted in India?
 - a. 1923 b. 1930 c. 1972 d. 1975

3. Employees share of contribution under the ESI Act is
 - a. 1.75% b. 4.75% c. 12% d. 8.33%

4. Under which law the manufacturing process, materials and substances that are likely to cause environmental pollution should be examined?
 - a. The Factories Act, 1948 b. The Water Act, 1974
 - c. The Environmental Act, 1986 d. The Air Act, 1981

5. ILO established in which year?
 - a. 1919 b. 1962 c. 1972 d. 1940

6. The provision to establish or recognize laboratories for analysis of samples is mentioned in
 - I. The water (prevention and Control of Pollution Act, 1974).
 - II. The Air (prevention and Control of Pollution Act, 1981).
 - III. The Environment (Protection) Act 1986
 - a. I, II, III b. Only I
 - c. I and II d. only III

7. Unemployment allowance payable is stated in
 - a. Employee State Insurance Act, 1948
 - b. Unorganized Sector Workers Social Security Act, 2005
 - c. Factories Act, 1948
 - d. None of the above

8. Which one of the following Labour Legislations provides comprehensive benefits to industrial workers in India?
 - a. Maternity Benefit Act b. Employees State Insurance Act
 - c. Employee Provident Funds Act d. Employees Compensation Act

9. The procedures and safeguards for handling of hazardous substances are mentioned in which Act?

- a. The Factories Act, 1948 b. The Water Act, 1974
c. The Air Act, 1981 d. The Environmental Act, 1986

10. Public liability Insurance Act was enacted in which year?
a. 1991 b. 1986 c. 1990 d. 1984

11. The Air (Prevention and Control of Pollution) 1981 was first amended in the year
a. 1986 b. 1987 c. 1988 d. 1990

12. The notice to polluting industry under section 49 of the Water (Prevention and Control of Pollution) Act, 1974 is given for _____
a. 30 days b. 45 days c. 60 days d. 15 days

13. Which year The Chemical Accidents (Emergency Planning, Preparedness And Response) Rules enacted in India
a. 1986 b. 1991 c. 1996 d. 1972

14. on which conference impact on Environment Protection Act 1986?

- a. UNCHE b. UNEP
c. UNDP d. UNESCO

15. Motor Vehicle Act 1988: Subject to the provisions of section 18, no person under the age of _____ shall drive a transport vehicle in any public place.
a. 18yrs b. 20Yrs c. 21Yrs d.25yrs

16. In Motor vehicle Act 1988: "e-cart or e-rickshaw" means a special purpose battery powered vehicle of power not exceeding _____ watts.
a. 2000 b.3000 c. 4000 d. 5000

17. Match the Act mentioned in Column – I with the year of enactment mentioned in Column – II :

Column – I

Column – II

- (i) The Water (Prevention and Control of Pollution) Act
(ii) The Air (Prevention and Control of Pollution) Act
(iii) The Environmental (Protection) Act
(iv) The Biological Diversity Act

1. 2002
2. 1986
3. 1974
4. 1981

Choose the correct code:

- Codes: (i) (ii) (iii) (iv)
(A) 1 4 3 2
(B) 3 4 2 1
(C) 3 2 1 4
(D) 2 4 3 1

Environmental Legislation and Management

Answer key:

1	c	11	b	21	b
2	a	12	c	22	a
3	a	13	c	23	c
4	c	14	a	24	b
5	a	15	b	25	d
6	c	16	c		
7	a	17	b		
8	b	18	b		
9	d	19	b		
10	a	20	a		

Paper V - Quality Control and Safety Management System

1. **Process control is carried out**
 - a) After production control
 - b) Before production
 - c) During production
 - d) All of the above
2. **The objective of ISO 9000 family of Quality management is**
 - a) Employment satisfaction
 - b) Customer satisfaction
 - c) Environmental issues
 - d) Skill enhancement
3. **International Organization of Standardization (ISO) and Total Management Quality (TQM) both focuses on**
 - a) Employee
 - b) Customer
 - c) Services
 - d) Producer
4. **Which of the following is for Environment Management?**
 - a) ISO-31000
 - b) ISO- 9000
 - c) ISO- 14000
 - d) ISO- 26000
5. **Six sigma is business-driven, multi-dimensional approach to**
 - a) Improving process
 - b) Increasing customer's satisfaction
 - c) Lowering defects
 - d) All of the above
6. **Which of the following is not process tool for TQM system?**
 - a) Control Chart
 - b) Plier
 - c) Histogram
 - d) Process flow analysis

7. **Process that operate with “six sigma quality” over the short term are assumed to produce long term defect level below ___ defect per million opportunities (DPMO).**
- a) 3.4
 - b) 2
 - c) 2.4
 - d) 3
8. **_____ are used in six sigma**
- a) Green belt
 - b) Black belt
 - c) Both Green and Black belt
 - d) None of the above
9. **“Quality is defined by the Customer” is**
- a) A product based definition of quality
 - b) A manufacturing based definition of quality
 - c) A user based definition of quality
 - d) An unrealistic definition of quality
10. **Who is considered to be as father of Six Sigma?**
- a) Jack welch
 - b) Walter Shewhart
 - c) Bill Smith
 - d) None of this
11. **Under the OSH act, employer are responsible for providing a_____**
- a) Safe workplace
 - b) Land
 - c) Insurance
 - d) Estimation
12. **Hazard communication in OSHA conducts _____**
- a) Strength analysis
 - b) Hazard evaluation of the products
 - c) Chemical analysis
 - d) Toxic exposure
13. **When was OSHA enacted?**
- a) 1970

- b) 1930
- c) 1945
- d) 1980

14. ISO 14040 is

- a) Environmental management- Life Cycle Assessment principle and framework
- b) Environmental management- Environment assessment of site and organization
- c) Guidelines for Environmental Audit- General principle
- d) Environmental management- Vocabulary

15. OSHAS was created to

- a) Data analysis
- b) Ecological Development
- c) To reduce hazards
- d) EIA analysis

16. Which of the following addresses management of eco- design?

- a) ISO 9001
- b) ISO 14006:2011
- c) ISO 1406:2006
- d) ISO 14020

17. Which of the following is for Environment Management?

- e) ISO-31000
- f) ISO- 9000
- g) ISO- 14000
- h) ISO- 26000

18. The role of management is to

- a) Provide resource
- b) Monitor the effectiveness of the system
- c) Define EMS
- d) All of the above

19. ISO- 14001 gives stress on

- a) Prevention rather than detection
- b) Environmental protection
- c) Plan-Do-Check-Act
- d) All of the above

20. What do you call the understanding of a dominant culture before choosing a suitable control system?

- a) Clan control
- b) Market control
- c) Bureaucratic control
- d) People control

21. CMM stands for

- a) Capability Management Module
- b) Conservative Maturity Model
- c) Capability Maturity Module
- d) Capability Maturity Model

22. Which EMS model is most well-known?

- a) ACC
- b) EMAS
- c) NEIC
- d) ISO 14001

23. EMS is the component of an organisation with primary responsibility for leading, planning, controlling and organising as they relate specifically to

- a) Processes
- b) Product
- c) Services
- d) All of them

24. What is FTA?

- a) Free tree analysis
- b) Fault tree analysis
- c) Fault top analysis
- d) Free top analysis

25. What is Eco-mark? B

- a) A scheme of labelling Environment friendly customer product
- b) A scheme for labelling pollution free industrial unit
- c) A cost effective production technique
- d) An international certification recognition

Paper V - Quality Control and Safety Management System

Answer key

1	a	11	a	21	d		
2	b	12	b	22	d		
3	b	13	a	23	d		
4	c	14	a	24	b		
5	d	15	c	25	b		
6	b	16	c				
7	a	17	c				
8	c	18	d				
9	c	19	c				
10	c	20	a				

Paper VI Safety Engineering

1. Automatic machine guards

- a) Are painted yellow
- b) Are used for meta bending equipment
- c) Require operator action
- d) Move into the position before machine start

2. Presence sensing machine guards

- a) Stops machines if power goes out
- b) Can't detect metal objects
- c) Stops machine if operator gets too close
- d) None of the above

3. Interlocked machine guards

- a) Stops the machine if opened
- b) Are used on boilers
- c) Allow the guard adjustment
- d) Are painted blue

4. Coupling, spindles and shafts are examples of _____ kind of hazardous mechanical motion.

- a) Reciprocating
- b) Transverse
- c) Rotating
- d) Punching

5. Coupling, spindles and shafts are examples of _____ kind of hazardous mechanical motion.

- e) Reciprocating
- f) Transverse
- g) Rotating
- h) Punching

6. Equipment operating instruction are

- a) Only guidelines
- b) For new employee
- c) Specific steps to follow every time

7. Wedges, chisels and draft pins are unsafe to use if they are

- a) Flat heads
- b) Mushroomed head
- c) Pointed head
- d) All of the above

8. What is the main regulation that controls the use of suitable access equipment for working at height?

- a) Work at height regulations
- b) Workplace (health, safety and welfare) regulations
- c) Lifting operations and lifting equipment regulations
- d) Health and safety in Roof work

9. Ergonomics is related to

- a) Comfort
- b) Safety
- c) Both (a) and (b)
- d) None of these

10. The following is the duty of safety inspector

- a) To provide safety literature
- b) Proper cleaning of the work place
- c) Periodic check up
- d) All of these

11. Which of these would not be defined as a confined space?

- a) HVAC ducts
- b) Grain storage bins
- c) Portable food vendor cart
- d) Digester

12. Which of the following is not the safety guard system?

- a) Safety by construction
- b) Safety by position
- c) Safety by trip guard
- d) None of these

13. A fall arrest system is required when worker operating at a height of

- a) 3 feet or more
- b) 6 feet or more

- c) 10 feet or more
- d) None of the above

14. When an employee is working in a confined space more than five feet deep, the other end of his retrieval line must be

- a) Securely attached to a fix point
- b) Held at all time by the attendant
- c) Connected to a mechanical device
- d) None of these

15. The purpose of lock out/ tag out procedure is to

- a) Save money
- b) Improve productivity on job
- c) Secure harmful energy sources to prevent injuries
- d) Identify personal items to avoid theft

16. Which of these is most likely to cause an accident in a workplace?

- a) Excessive noise
- b) Adequate lighting
- c) Administration
- d) Manual handling

17. The safe way of working is

- a) An effective and right way of working
- b) An ancient way of working
- c) A way of handling the work in hurry
- d) A way of normal working

18. The following is/are generally provided with limit switch to prevent motion beyond pre-set limit

- a) Conveyors
- b) Machine tables
- c) Hoists
- d) All of the above

19. Machine danger points are

- a) Painted red
- b) Near the back
- c) Moving parts
- d) Front part

20. Machine guards are used to

- a) Protect people in the area
- b) Protect the operator
- c) Prevent injuries
- d) All of the above

21. In safety colour code red colour is used for

- a) Caution
- b) Safety instructions
- c) Stop signs
- d) None of the above

22. Checklist of Job Safety Analysis (JSA) consist of

- a) Men, Machine, Work area, Tools
- b) Work area, Material, Machine, Tools
- c) Men, Machine, Work area, Tools
- d) Men, Work area, Material, Tools

23. Equipment operating instruction are

- a) Only guidelines
- b) For new employee
- c) Specific steps to follow every time
- d) None of these

24. Ergonomics is related to

- a) Comfort
- b) Safety
- c) Both (a) and (b)
- d) None of these

25. The safest ladder to use around electricity is

- a) Wood
- b) Aluminium
- c) A smaller step stool
- d) Fibreglass

Paper VI Safety Engineering

Answer key:

1	d	11	b	21	c
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8	d	18	a		
9	b	19	c		
10	a	20	d		