

## General Aptitude

| Q. No. | Question   | Option 1   | Option 2   | Option 3   | Option 4  |
|--------|--|--|--|--|---|
| 1      | Convert the given sentence into indirect speech:<br>The PM said, 'Prioritize the security patch'.  | The PM said that they prioritized the security patch.            | The PM said that the security patch be prioritized.              | The PM said to prioritize the security patch.                    | The PM said prioritizing the security patch.                      |
| 2      | Determine the grammatically correct version of the given statement:<br><br>She is one of those people who always takes criticism personally.                             | She is one of those people to always takes criticism personally. | She is one of those people who always take criticism personally. | She is one of those person who always take criticism personally. | She is one of those person who always takes criticism personally. |
| 3      | Which sentence is passive-aggressive in a professional email?  | Let's discuss how to resolve the issue.                          | As per my last email, the issue remains unresolved.              | The issue requires your attention.                               | Could you please update me on this?                               |
| 4      | What is the closest synonym of the word "adversary" as used in the given sentence?<br><br>The unexpected storm was an adversary to the hikers' progress up the mountain. | Companion  | Threat   | Opponent   | Guide   |

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| 5      | <p>In the below question, a part of the sentence is in brackets. Below are given alternatives to the bracketed part which may improve the sentence. Choose the correct alternative. In case no improvement is required, choose 'No Improvement' option.</p> <p>Please do not talk about your office work (on the dinner table).</p> | No Improvement | at the dinner table | in the dinner table | around the dinner table |
| 6      | <p>In the question below, a sentence is given with one part bracketed. Select the option that provides the correct replacement for the bracketed part. In case of no improvement needed, choose Option D.</p> <p>The roof of the garage has (fallen down).</p>  | fallen in      | fallen through      | fallen off          | No Improvement          |

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| 7      | <p>Aman starts walking from his home facing north. He walks 5 km, then turns right and walks 3 km. He then turns left, walks 4 km, and again turns left to walk 3 km. Finally, he turns right and walks 2 km.</p> <p>How far is Aman from his home and in which direction?</p> | 6 km, South | 8 km, East | 11 km, North | 10 km, West |

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| 8      | <p>In the following question, some statements are followed by some conclusions. You must consider the given statements true even if they seem at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows the given statements, disregarding commonly known facts.</p> <p>Statements:</p> <ol style="list-style-type: none"><li>1. All phones are boxes.</li><li>2. Some boxes are big.</li><li>3. All big are fans.</li></ol> <p>Conclusion:</p> <ol style="list-style-type: none"><li>1. Some fans are phones.</li><li>2. Some big are phones.</li><li>3. Some fans are boxes.</li></ol> | Only (1) follows. | Only (2) follows. | Only (3) follows. | Both (2) and (3) follow. |

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| 9      | Eight members living under one roof, consists of three generations. Krish is married to Rama. Quasi is the mother of Pranav. Sivi is the sister of Krish. Pranav is the brother of Rama. Krish is the child of Tashi. Sivi is the aunt of Mandy. If Quasi is married to Bhanu, then how Bhanu is related to Mandy? | Grandfather   | Father   | Brother-in-law  | Uncle   |
| 10     | In an exhibition of science, a certain number of projects are placed in a row. Project M is placed 14th from the left end, and Project K is placed 16th from the right end. There are 13 projects between M and K. How many projects are placed in the exhibition?   | 16  | 17   | 43  | Cannot be determined  |
| 11     | Find the missing number in the given series.<br>1, 2, 9, __, 65, 126, 217  | 28  | 37   | 46  | 19  |
| 12     | Which of the following is a key characteristic of a transformational leader?   | They establish clear incentives and consequences to guide team performance. | They ensure consistent operations through well-defined structures and authority. | They maintain a predictable environment by preserving established organizational norms. | They foster creativity and motivate individuals to achieve beyond standard goals. |
| 13     | The social construction of leadership suggests that leadership is _____.   | An innate trait that only certain individuals possess                       | A fixed set of behaviours defined by corporate policies                          | A dynamic process shaped by interactions and perceptions within a group                 | It is determined by a leader's formal authority                                   |

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| 14     | Anam is the newly appointed leader of a software development team tasked with a highly complex and unstructured project with tight deadlines. The team members are relatively new to working together and have varying levels of technical expertise. which of the following leadership approaches would be most effective in this situation? | Focus on building strong interpersonal relationships and fostering a supportive team environment          | Implement a structured approach with clear task assignments and close monitoring                             | Empower the team by delegating significant autonomy and encouraging collaborative problem-solving                                  | Prioritize the leader's expert technical knowledge and provide direct solutions to technical challenges      |
| 15     | How does transformational leadership differ from transactional leadership?  | Transformational leaders focus on short-term goals, while transactional leaders focus on long-term vision | Transformational leaders rely on contingent rewards, while transactional leaders avoid structured incentives | Transformational leaders inspire and motivate through vision, while transactional leaders focus on exchanges (rewards/punishments) | Transformational leaders avoid emotional connections, while transactional leaders build strong relationships |
| 16     | What is the keyboard shortcut to insert a manual line break in MS Excel?  | Ctrl + Shift  | Alt + Enter  | Ctrl + Enter   | Alt + Shift  |
| 17     | A cybercriminal sends you an email with a link to a website that looks identical to your bank's. The website asks you to enter your login credentials.<br><br>What type of attack is this?  | Phishing attack   | Malware attack   | DDoS attack  | Viruses  |

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|-----------------------------|---|---------------------|--------------------|---------------------|-------------------|--------------------|----------------------|---------------|-----------------------|-----------------------------|------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 18                          | In MS PowerPoint presentations, the design regulate the layout and formatting for the slide. These are commonly known as _____.   | Blueprints          | Placeholders       | Templates           | Design Plates     |                    |                      |               |                       |                             |                        |                            |                            |                            |                            |
| 19                          | What is the maximum zoom percentage in MS PowerPoint?   | 400                 | 300                | 200                 | 100               |                    |                      |               |                       |                             |                        |                            |                            |                            |                            |
| 20                          | Match the MS Word shortcuts with their purpose and choose the correct option.<br><br><table><tr><th>Column A (Shortcut)</th><th>Column B (Purpose)</th></tr><tr><td>A. Ctrl + Shift + N</td><td>1. Open Thesaurus</td></tr><tr><td>B. Alt + Shift + D</td><td>2. Apply superscript</td></tr><tr><td>C. Shift + F7</td><td>3. Apply Normal style</td></tr><tr><td>D. Ctrl + Shift + Plus sign</td><td>4. Insert current date</td></tr></table> | Column A (Shortcut) | Column B (Purpose) | A. Ctrl + Shift + N | 1. Open Thesaurus | B. Alt + Shift + D | 2. Apply superscript | C. Shift + F7 | 3. Apply Normal style | D. Ctrl + Shift + Plus sign | 4. Insert current date | A → 3, B → 1, C → 4, D → 2 | A → 1, B → 4, C → 3, D → 2 | A → 3, B → 4, C → 1, D → 2 | A → 2, B → 3, C → 1, D → 4 |
| Column A (Shortcut)         | Column B (Purpose)  |                     |                    |                     |                   |                    |                      |               |                       |                             |                        |                            |                            |                            |                            |
| A. Ctrl + Shift + N         | 1. Open Thesaurus   |                     |                    |                     |                   |                    |                      |               |                       |                             |                        |                            |                            |                            |                            |
| B. Alt + Shift + D          | 2. Apply superscript  |                     |                    |                     |                   |                    |                      |               |                       |                             |                        |                            |                            |                            |                            |
| C. Shift + F7               | 3. Apply Normal style   |                     |                    |                     |                   |                    |                      |               |                       |                             |                        |                            |                            |                            |                            |
| D. Ctrl + Shift + Plus sign | 4. Insert current date  |                     |                    |                     |                   |                    |                      |               |                       |                             |                        |                            |                            |                            |                            |

# Occupational Safety and Health

| Q. No.             | Question  | Option 1      | Option 2               | Option 3          | Option 4         |               |                       |                    |                     |               |               |               |               |
|--------------------|---|---------------|------------------------|-------------------|------------------|---------------|-----------------------|--------------------|---------------------|---------------|---------------|---------------|---------------|
| 1                  | Which extinguisher is typically not used in petrol pumps and chemical plants due to its ineffectiveness on flammable liquids?   | Dry powder    | Water                  | CO <sub>2</sub>   | Foam             |               |                       |                    |                     |               |               |               |               |
| 2                  | Which of the following gases poses the highest risk in case of high-pressure storage due to its wide flammability range?  | Nitrogen      | Methane                | Carbon dioxide    | Hydrogen         |               |                       |                    |                     |               |               |               |               |
| 3                  | Which one of the following is a passive fire protection measure?  | Deluge system | Fire-retardant coating | Fire alarm system | Sprinkler system |               |                       |                    |                     |               |               |               |               |
| 4                  | Match the following:<br><table><thead><tr><th>List 1</th><th>List 2</th></tr></thead><tbody><tr><td>1. PM2.5</td><td>a. Leukemia</td></tr><tr><td>2. Zinc Oxide</td><td>b. Respiratory issues</td></tr><tr><td>3. Benzene vapours</td><td>c. Metal fume fever</td></tr></tbody></table> | List 1        | List 2                 | 1. PM2.5          | a. Leukemia      | 2. Zinc Oxide | b. Respiratory issues | 3. Benzene vapours | c. Metal fume fever | 1-b, 2-a, 3-c | 1-c, 2-a, 3-b | 1-c, 2-b, 3-a | 1-b, 2-c, 3-a |
| List 1             | List 2  |               |                        |                   |                  |               |                       |                    |                     |               |               |               |               |
| 1. PM2.5           | a. Leukemia   |               |                        |                   |                  |               |                       |                    |                     |               |               |               |               |
| 2. Zinc Oxide      | b. Respiratory issues   |               |                        |                   |                  |               |                       |                    |                     |               |               |               |               |
| 3. Benzene vapours | c. Metal fume fever   |               |                        |                   |                  |               |                       |                    |                     |               |               |               |               |



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| 5      | A PAPR (Powered Air-Purifying Respirator) is most suitable when _____.   | There is sufficient oxygen and contaminants are particulates or low-level gases | The atmosphere is immediately dangerous to life and health (IDLH) | The user is sitting in a well-ventilated room with no exposure risk | The user is working in a submerged, oxygen-rich aquatic environment |
| 6      | Which environmental factor has the greatest effect on the evaporative cooling process?   | Air temperature   | Relative humidity   | Wind speed  | Solar radiation   |
| 7      | From the following identify the symptoms of heat stroke:<br>1. High body Temperature<br>2. Flushed, dry skin<br>3. Profuse sweating<br>4. Confusion or unconsciousness | Only 4  | 1,2 and 3   | 1, 2 and 4  | 1, 2, 3 and 4   |
| 8      | Which of the following is NOT a principle of zero access guarding?   | Use of fixed or interlocked guards  | Remote machine operation  | Operator entry allowed with supervision                             | Prevention of all operator contact with moving parts                |
| 9      | A fixed guard is most suitable for _____.  | Machines with repetitive and predictable operations                             | Maintenance work zones  | Machines with highly variable sizes of input materials              | High-speed conveyor belts with changing loads                       |

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| Q. No. | Question  | Option 1                       | Option 2                                       | Option 3                                     | Option 4                                      |
|--------|---|--------------------------------|--|--|---|
| 10     | What is the ideal posture for lifting heavy objects?  | Bend forward from the waist    | Keep legs straight and back rounded            | Squat down using legs and keep back straight | Twist the body while lifting                  |
| 11     | _____ cranes and _____ cranes are most suitable for indoor and outdoor lifting with high vertical clearance respectively. | Overhead travelling and gantry | Jib and overhead travelling                    | Gantry and tower                             | Gantry and jib                                |
| 12     | In the '5S' system, the step "Shitsuke" (Sustain) focuses on _____.   | Organising the tasks           | Cleaning everyday                              | Rearranging inventory daily                  | Maintaining and reviewing standards regularly |
| 13     | Which of the following materials is most likely to accumulate static charge?  | Cotton                         | Steel  | Copper                                       | Glass   |
| 14     | A common cause of explosions during metal casting is _____.   | Use of copper molds            | Pouring molten metal into a mold with moisture | High ambient temperature                     | Excess use of furnace flux                    |

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| Q. No. | Question  | Option 1  | Option 2                                | Option 3                  | Option 4                     |
|--------|---|---|---|---------------------------|------------------------------|
| 15     | What is the primary health risk due to long-term exposure to cotton dust in spinning and weaving units?                 | Byssinosis  | Tuberculosis                            | Astigmatism               | Silicosis                    |
| 16     | In sugar industry boiler operations, the main hazard is _____.  | Radiation exposure  | High pressure and temperature explosion | Wind load on the building | Electromagnetic interference |
| 17     | Which of the following NDT methods is most suitable for detecting surface cracks in non-magnetic metals like aluminium? | Magnetic Particle Testing                                   | Liquid/Dye Penetrant Testing            | Ultrasonic Testing        | Radiographic Testing         |
| 18     | In IT environments, the risk of electrical hazards primarily arises from which of the following?                        | Continuous use of high-power servers and improper grounding | High voltage industrial machinery       | Battery-operated gadgets  | Wireless routers             |

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| Q. No. | Question  | Option 1  | Option 2  | Option 3  | Option 4  |
|--------|---|---|---|---|---|
| 19     | What is the primary purpose of a Safety Operating Procedure (SOP) in a plant?   | To delegate operational responsibilities among various plant departments  | To provide technical training                                     | To ensure uniform and safe execution of operations              | To ensure consistent documentation practices across departments |
| 20     | Which Tag colour is used for warning of "potential hazards" in the industry as per the IS 8095?   | RED   | WHITE   | YELLOW  | BLUE  |
| 21     | What distinguishes a permit-to-work (PTW) system from regular safety protocols?   | PTW is a formal written authorization for hazardous and non-routine tasks | PTW is a formal written authorization for hazardous/routine tasks | PTW is a formal written authorization for special tasks         | PTW is mandated only for confined spaces                        |
| 22     | In the context of incident investigation, what is the "Domino Theory" used for?   | Determining cost of loss  | Establishing liability in civil courts                            | To model the chain of events leading to an accident or incident | Predicting market trends after an accident                      |
| 23     | A factory with 400 workers reported 8 lost-time injuries in a year. The total man-hours worked was 8,00,000. What is the Frequency Rate (FR) of accidents as per IS 3786? | 8   | 4   | 10  | 16  |

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| Q. No. | Question   | Option 1  | Option 2                                     | Option 3   | Option 4                                 |
|--------|--|---|--|--|--|
| 24     | Which of the following is a reportable accident as per IS 3786:1983?   | Minor scratch treated with first aid  | Slip without injury                          | Injury causing more than 48 hours' absence from work | Temporary deafness for a few minutes     |
| 25     | Which among the following statements are correct about MAH installations?<br>1. A unit handling hazardous chemicals below threshold quantities.<br>2. MAH installations are required to prepare both On-site and Off-site Emergency Plans.<br>3. MSIHC Rules require the occupier of a MAH installation to conduct safety drills involving external agencies like fire departments and police.<br>4. If hazardous chemicals are stored in underground tanks, they are excluded from the threshold calculation under MSIHC Rules. | 1, 2 and 3  | 2 and 3                                      | 1 and 4  | 1, 2 and 4                               |
| 26     | What is the first step in conducting a safety audit as per IS 14489?   | Interviewing staff  | Verifying past pending the audit compliances | Obtaining past accident data                         | Preparation of a pre-audit questionnaire |
| 27     | Which Indian agency is responsible for enforcement of Dock Safety Regulations?   | Directorate General of Factory Advice Service and Labour Institutes (DGFASLI) | Central Pollution Control Board (CPCB)       | Ministry of Ports and Shipping                       | Indian Coast Guard                       |

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| Q. No.                       | Question  | Option 1                                     | Option 2                                 | Option 3  | Option 4                          |                              |            |            |            |        |            |                    |                    |                    |                    |
|------------------------------|---|--|--|---|-----------------------------------|------------------------------|------------|------------|------------|--------|------------|--------------------|--------------------|--------------------|--------------------|
| 28                           | The use of loose gears like chains and slings is allowed only if _____.   | They are supplied by a government contractor | They are hand-made                       | They are tested and marked with safe working load (SWL) | They are lubricated weekly        |                              |            |            |            |        |            |                    |                    |                    |                    |
| 29                           | The maximum permissible quantity of Class A petroleum product that may be stored without a license for private use (non-transportation) is _____.   | 30 litres                                    | 50 litres                                | 100 litres  | 500 litres                        |                              |            |            |            |        |            |                    |                    |                    |                    |
| 30                           | Match the following explosives to its corresponding Class based on Explosives Rules 2008:<br><table><thead><tr><th>List 1</th><th>List 2</th></tr></thead><tbody><tr><td>1. Gunpowder</td><td>a. Class 6</td></tr><tr><td>2. Ammonium Nitrate Fuel Oil</td><td>b. Class 3</td></tr><tr><td>3. Bullets</td><td>c. Class 1</td></tr><tr><td>4. TNT</td><td>d. Class 2</td></tr></tbody></table> | List 1                                       | List 2                                   | 1. Gunpowder  | a. Class 6                        | 2. Ammonium Nitrate Fuel Oil | b. Class 3 | 3. Bullets | c. Class 1 | 4. TNT | d. Class 2 | 1-c, 2-b, 3-d, 4-a | 1-b, 2-c, 3-d, 4-a | 1-d, 2-c, 3-a, 4-b | 1-c, 2-d, 3-a, 4-b |
| List 1                       | List 2  |  |  |   |                                   |                              |            |            |            |        |            |                    |                    |                    |                    |
| 1. Gunpowder                 | a. Class 6  |  |  |   |                                   |                              |            |            |            |        |            |                    |                    |                    |                    |
| 2. Ammonium Nitrate Fuel Oil | b. Class 3  |  |  |   |                                   |                              |            |            |            |        |            |                    |                    |                    |                    |
| 3. Bullets                   | c. Class 1  |  |  |   |                                   |                              |            |            |            |        |            |                    |                    |                    |                    |
| 4. TNT                       | d. Class 2  |  |  |   |                                   |                              |            |            |            |        |            |                    |                    |                    |                    |
| 31                           | What is the nature of ILO recommendations compared to conventions?  | Legally binding                              | Not legally binding but provide guidance | Enforced by ILO through penalties                       | Only applicable to private sector |                              |            |            |            |        |            |                    |                    |                    |                    |

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|--------|---|---------------------|---|---------------------------|-------------------------|
| 32     | As per NBC 2016, which Part deals with Fire and Life Safety?  | Part 4              | Part 6  | Part 8                    | Part 9                  |
| 33     | Which clause in ISO 45001 specifically deals with risk and opportunity assessment?                                      | Clause 4            | Clause 6  | Clause 8                  | Clause 9                |
| 34     | In safety management, which planning type focuses on day-to-day activities?   | Strategic planning  | Operations planning   | Contingency planning      | Visionary planning      |
| 35     | Who bears ultimate responsibility for Safety, Health, and Environment in an Indian industrial organization?             | Safety Officer      | Plant Head  | Top Management / Occupier | Human Resources Manager |
| 36     | The primary benefit of Safety Kaizen is _____.  | Complete automation | Continuous small improvements in safety practices with worker involvement | Cost-cutting              | Replacing old machinery |
| 37     | The tendency of individuals to underestimate the likelihood of being harmed in a hazardous situation is known as _____. | Risk aversion       | Safety bias   | Confirmation bias         | Optimism bias           |

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|--------|---|---------------------------------|---|--|---|
| 38     | What is collation of SHE data?  | Deleting unnecessary data       | Randomly selecting data                               | Arranging and combining relevant data                            | Encrypting data                           |
| 39     | Which model focuses on management system failures as the primary root of accidents? | Human Error Model               | Frank Bird's Loss Causation Model                     | Heinrich's Theory  | Swiss Cheese Model                        |
| 40     | The Seveso II Directive primarily deals with _____.                                 | Worker compensation             | Reporting of accidents                                | Control of major accident hazards involving dangerous substances | Import regulations of hazardous materials |
| 41     | What is the primary goal of disaster mitigation?                                    | Forecasting disasters precisely | Reducing the impact of disasters on life and property | Increasing the intensity of warning signals                      | Limiting access to disaster-prone areas   |
| 42     | What chemical was released that led to the explosion in Flixborough disaster?       | Methane                         | Ammonia   | Methyl Isocyanate  | Cyclohexane                               |
| 43     | What was the main cause of the Sandoz disaster?                                     | Explosion of a storage tank     | Collision of trucks                                   | Warehouse fire   | Earthquake damage                         |



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|--------|--|--|---|------------------------------------|--|
| 44     | Which of the following is NOT typically considered a valid Independent protection layer (IPL) in LOPA?   | Pressure relief valve                  | Operator response to an alarm                           | SIS (Safety Instrumented System)   | Physical containment                       |
| 45     | Which safety method is most appropriate when sampling toxic volatile organics in a pharmaceutical industry?  | Use of open beaker method in fume hood | Use of closed-loop sampling systems with purge and vent | Use of cloth mask and manual valve | Sampling through pressurized spray nozzles |
| 46     | What is covered under UN Class 3 of dangerous goods?   | Flammable liquids                      | Gases   | Toxic substances                   | Radioactive materials                      |
| 47     | Which type of pig is typically used to separate different batches of fluids in a pipeline?   | Foam pig                               | Cup pig   | Brush pig                          | Calliper pig                               |
| 48     | What is the base colour for pipelines carrying water? (excluding firefighting)   | Green                                  | Red   | Yellow                             | Blue                                       |
| 49     | In which type of equipment Pressure/Vacuum valves are primarily used?  | Pressure vessels                       | Boilers   | Distillation Column                | Storage tanks                              |
| 50     | According to the model Factories Rules, how often must workers employed in a hazardous process industry be medically examined by a qualified medical practitioner? | Every 3 months                         | Every 6 months  | Once a year                        | Only at the time of employment             |

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| Q. No. | Question   | Option 1  | Option 2   | Option 3   | Option 4  |
|--------|--|---|--|--|---|
| 51     | In a hazardous process industry, what is the minimum number of persons who must be trained in first-aid procedures?  | 2 persons   | 3 persons  | 5 persons  | 10 persons  |
| 52     | In safety signage, which background colour is used to indicate that wearing personal protective equipment (PPE) is mandatory?  | Red   | Yellow   | Blue   | Green   |
| 53     | Among the following, which is not the step of JSA?   | select Job  | break job into sequence  | identify ways to speed up the job                            | identify hazards and control measures                                     |
| 54     | As per IS 5572, which location given below comes under Zone 2 of the hazardous area classification?  | Area with floating roof tanks of imperfectly fitting peripheral seals | Areas where the piping system is without valves, fittings, flanges | Areas in the immediate vicinity of vents and filling hatches | Area where the flammable vapours can be conducted through pipes, or ducts |
| 55     | Which of the following is an example of an inherently safer design strategy?   | Use of high-pressure equipment  | Substitution with less hazardous materials                         | Installation of multiple safety relief valves                | Use of a large inventory of hazardous materials                           |
| 56     | Which among the following techniques helps to standardize the operation for easy monitoring, controlling, comfort, safety, and simultaneously ensuring more productivity and profit? | One Point Lessons   | Safety Kaizen  | Tool Box Talks   | None of these   |
| 57     | As per Noise Pollution Rules 2000, the permissible noise levels in Residential areas are _____ dBA at daytime and _____ dBA at night-time.   | 90,85   | 55,45  | 75,70  | 50,40   |

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| Q. No.                   | Question  | Option 1                      | Option 2                      | Option 3                      | Option 4  |                    |  |                    |   |                          |   |                    |                    |                    |                    |
|--------------------------|---|-------------------------------|-------------------------------|-------------------------------|---|--------------------|--|--------------------|---|--------------------------|---|--------------------|--------------------|--------------------|--------------------|
| 58                       | As per IS 18001, if an event that is very unlikely to happen and that is slightly harmful in nature occurs, the associated risk is _____.   | Trivial Risk                  | Moderate Risk                 | Tolerable Risk                | Substantial Risk  |                    |  |                    |   |                          |   |                    |                    |                    |                    |
| 59                       | What is the purpose of a Deadman switch on a portable power tool?   | To prevent accidental startup | To increase the tool's speed. | To adjust the tool's settings | To hold the workpiece in place                              |                    |  |                    |   |                          |   |                    |                    |                    |                    |
| 60                       | As per IS 4082, the maximum height for stack of cement bags is _____.   | 15 bags                       | 10 bags                       | 20 bags                       | 18 bags   |                    |  |                    |   |                          |   |                    |                    |                    |                    |
| 61                       | Match the Following.<br><table><thead><tr><th>List 1</th><th>List 2</th></tr></thead><tbody><tr><td>1. Machine Operation</td><td>a. Identifying potential hazards associated with machinery.</td></tr><tr><td>2. Safety Guarding</td><td>b. Quickly halts machinery during critical situations.</td></tr><tr><td>3. Risk Assessment</td><td>c. Implementing protective barriers and mechanisms.</td></tr><tr><td>4. Emergency Stop Button</td><td>d. Proper usage and control of industrial equipment</td></tr></tbody></table> | List 1                        | List 2                        | 1. Machine Operation          | a. Identifying potential hazards associated with machinery. | 2. Safety Guarding | b. Quickly halts machinery during critical situations. | 3. Risk Assessment | c. Implementing protective barriers and mechanisms. | 4. Emergency Stop Button | d. Proper usage and control of industrial equipment | 1-d, 2-c, 3-b, 4-a | 1-b, 2-c, 3-a, 4-d | 1-b, 2-a, 3-c, 4-d | 1-d, 2-c, 3-a, 4-b |
| List 1                   | List 2  |                               |                               |                               |   |                    |  |                    |   |                          |   |                    |                    |                    |                    |
| 1. Machine Operation     | a. Identifying potential hazards associated with machinery.   |                               |                               |                               |   |                    |  |                    |   |                          |   |                    |                    |                    |                    |
| 2. Safety Guarding       | b. Quickly halts machinery during critical situations.  |                               |                               |                               |   |                    |  |                    |   |                          |   |                    |                    |                    |                    |
| 3. Risk Assessment       | c. Implementing protective barriers and mechanisms.   |                               |                               |                               |   |                    |  |                    |   |                          |   |                    |                    |                    |                    |
| 4. Emergency Stop Button | d. Proper usage and control of industrial equipment   |                               |                               |                               |   |                    |  |                    |   |                          |   |                    |                    |                    |                    |

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| Q. No. | Question   | Option 1                                 | Option 2                            | Option 3                                    | Option 4   |
|--------|--|--|-------------------------------------|---|--|
| 62     | In the ABC model in Behaviour based Safety ABC Stands for _____.   | Antecedent, Behaviour, Consequence       | Acceptance, Behaviour, Control      | Ancestor, Behaviour, Consequence            | Antecedent, Behaviour, Concern                                     |
| 63     | Which international organization provides global guidelines on occupational safety and health?   | WHO                                      | UNESCO                              | IMF   | ILO  |
| 64     | Heinrich's Theory (or Domino Model) suggests that for every major accident, there are how many minor accidents and near misses combined? | 1 minor accident and 2 near misses       | 1 minor accident and 29 near misses | 29 minor accidents and 300 near misses      | 100 minor accidents and 100 near misses                            |
| 65     | What was the main cause of the Flixborough disaster (1974) in the UK?  | Delayed maintenance of gas detectors     | Malfunction of safety alarms        | Improper modification of a reactor pipeline | Gas leak due to corroded pipelines                                 |
| 66     | In the context of emergency planning, the term "all clear" signifies _____.  | That workers should evacuate immediately | That an emergency is about to occur | That emergency equipment is fully charged   | That the threat has passed and normal operations can resume safely |
| 67     | Which type of guard is best suited for high-production automated machinery where frequent access is needed?                              | Fixed guard                              | Interlocked guard                   | Adjustable guard                            | Self-adjusting guard   |

# Occupational Safety and Health

| Q. No. | Question   | Option 1   | Option 2   | Option 3                          | Option 4                              |
|--------|--|--|--|-----------------------------------|---------------------------------------|
| 68     | Which type of press requires clutch/brake monitoring systems to ensure safe stopping?  | Mechanical power press                               | Pneumatic press  | Hydraulic press                   | Servo press                           |
| 69     | Which of the following gases used in gas cutting poses the greatest risk of explosion if leaked and accumulated?                                     | Acetylene  | Hydrogen   | Propane                           | Argon                                 |
| 70     | Which of the following Non-Destructive Testing (NDT) methods is primarily used to measure the thickness of a material without affecting its surface? | Thermography   | Eddy Current Testing                                   | Radiography                       | Ultrasonic Testing                    |
| 71     | The Carpal Tunnel Syndrome (CTS) is caused by _____.   | High-frequency noise exposure                        | Repetitive hand movements and poor wrist positioning   | Working in extreme temperatures   | Lack of sleep and rest                |
| 72     | The catastrophic explosion at Mexico City LPG tank farm (1984) primarily involved failure due to _____.  | Poor fencing around the plant                        | Lack of thermal radiation protection and domino effect | Overfilled underground pipelines  | Poor quality gas cylinders            |
| 73     | Which process safety management failure occurred at Seveso?  | Lack of immediate public alert and evacuation system | Overtraining of the workers                            | Neglect of mechanical maintenance | Over-inspection of the chemical plant |

# Occupational Safety and Health

| Q. No. | Question   | Option 1                                    | Option 2                                       | Option 3   | Option 4  |
|--------|--|---|--|--|---|
| 74     | Which instrument is typically NOT considered a layer of protection in LOPA unless it has independent effectiveness?                                      | Process control system (PCS)                | Pressure Relief Valve (PRV)                    | Independent High Integrity Protection System (IPS) | Safety Instrumented System (SIS)                              |
| 75     | While transporting radioactive materials, which placard colour must be used according to UN guidelines?  | Green                                       | Red  | Blue   | Yellow and white  |
| 76     | In a pigging operation, the "pig" primarily functions to _____.  | Increase the flow rate                      | Clean and inspect the pipeline internally      | Insulate the pipeline                              | Increase internal pipeline pressure                           |
| 77     | The Fatal Accident Frequency Rate (FAFR) is defined as _____.  | Number of fatal accidents per 1,000 workers | (No. of all injuries / Total production units) | (No. of near misses × 100) / man-days              | (No. of fatal accidents × 1,000,000) / Total man-hours worked |
| 78     | Which of the following respiratory protection devices would be used in an area with unknown hazardous gas concentration and oxygen-deficient atmosphere? | Air-purifying respirator (APR)              | Dust mask                                      | Particulate respirator                             | Self-contained breathing apparatus (SCBA)                     |
| 79     | Which of the following is not listed in the Third Schedule of the Factories Act, 1948 as a notifiable disease?   | Silicosis                                   | Asbestosis                                     | Malaria  | Toxic anemia  |

# Occupational Safety and Health

| Q. No.       | Question   | Option 1 | Option 2 | Option 3     | Option 4   |              |  |              |   |              |   |                    |                    |                    |                    |
|--------------|--|----------|----------|--------------|--|--------------|--|--------------|---|--------------|---|--------------------|--------------------|--------------------|--------------------|
| 80           | Match the following:<br><br><table><thead><tr><th>List 1</th><th>List 2</th></tr></thead><tbody><tr><td>A. ISO 45001</td><td>1. Focuses on energy management and improving energy efficiency and performance.</td></tr><tr><td>B. ISO 14001</td><td>2. Specifies requirements for occupational health and safety management systems.</td></tr><tr><td>C. ISO 50001</td><td>3. Provides a framework for environmental management systems to minimize environmental impacts.</td></tr><tr><td>D. ISO 18001</td><td>4. Establishes criteria for a comprehensive safety management system in workplaces.</td></tr></tbody></table> | List 1   | List 2   | A. ISO 45001 | 1. Focuses on energy management and improving energy efficiency and performance. | B. ISO 14001 | 2. Specifies requirements for occupational health and safety management systems. | C. ISO 50001 | 3. Provides a framework for environmental management systems to minimize environmental impacts. | D. ISO 18001 | 4. Establishes criteria for a comprehensive safety management system in workplaces. | A-3, B-4, C-1, D-2 | A-4, B-2, C-1, D-3 | A-2, B-3, C-1, D-4 | A-1, B-4, C-2, D-3 |
| List 1       | List 2   |          |          |              |  |              |  |              |   |              |   |                    |                    |                    |                    |
| A. ISO 45001 | 1. Focuses on energy management and improving energy efficiency and performance.   |          |          |              |  |              |  |              |   |              |   |                    |                    |                    |                    |
| B. ISO 14001 | 2. Specifies requirements for occupational health and safety management systems.   |          |          |              |  |              |  |              |   |              |   |                    |                    |                    |                    |
| C. ISO 50001 | 3. Provides a framework for environmental management systems to minimize environmental impacts.  |          |          |              |  |              |  |              |   |              |   |                    |                    |                    |                    |
| D. ISO 18001 | 4. Establishes criteria for a comprehensive safety management system in workplaces.  |          |          |              |  |              |  |              |   |              |   |                    |                    |                    |                    |

# Environment

| Q. No. | Question  | Option 1                     | Option 2                      | Option 3                  | Option 4                 |
|--------|---|------------------------------|-------------------------------|---------------------------|--------------------------|
| 1      | According to Water Act 1974 _____ includes any liquid, gaseous or solid substance which is discharged from any premises used for carrying on any [industry, operation or process, or treatment and disposal system], other than domestic sewage.  | Trade effluent               | Sewage effluent               | Industrial effluent       | Process effluent         |
| 2      | Which of the following fund is established under Public Liability Insurance Act, 1991 to provide immediate relief to victims of accidents involving hazardous substances?   | Environmental Recurring Fund | Environmental Protection Fund | Environmental Relief Fund | Accident Protection Fund |
| 3      | Water cess is levied for the following four purposes. Arrange them in the increasing order of water cess.<br>1. Domestic purpose 2. Processing where water gets polluted and are not easily biodegradable. 3. Processing where water gets polluted and the pollutants are bio degradable. 4. Industrial cooling plants. | 1, 4, 3, 2                   | 1, 2, 3, 4                    | 4, 3, 1, 2                | 1, 3, 4, 2               |
| 4      | Arrange the elements of ISO 14001 in the correct sequence. 1. Planning 2. Environmental Policy 3. Management review 4. Implementation and operation 5. Checking and corrective action.  | 2, 1, 5, 4, 3                | 2, 1, 4, 5, 3                 | 1, 2, 4, 5, 3             | 2, 1, 4, 3, 5            |
| 5      | In _____ units the dirty gases are made to pass through beds of activated carbon thereby removing pollutants.   | adsorption                   | absorption                    | combustion                | incinerators             |
| 6      | Which of the following process is used for pretreatment purposes such as coagulation, disinfection etc?   | Sludge thickening            | Elutriation                   | Chemical conditioning     | Dewatering               |



# Environment

| Q. No. | Question  | Option 1          | Option 2                       | Option 3            | Option 4             |
|--------|---|-------------------|--------------------------------|---------------------|----------------------|
| 7      | What is the treatment and disposal method for bio medical waste collected in Red coloured bin?  | Landfilling       | Autoclaving                    | Deep burying        | Discharge into sewer |
| 8      | Depletion of ozone in the stratosphere is due to increasing release of _____ due to human activities.   | methane           | carbon dioxide                 | chlorofluorocarbons | nitrogen             |
| 9      | ISO 50001 is based on the _____ continual improvement framework and incorporates energy management into everyday organizational practices.                    | Plan-Do-Check-Act | Plan-Check-Do-Act              | Plan-Do-Act-Check   | Plan-Act-Do-Check    |
| 10     | Which of the following method is considered to be one of the most cost effective technology for removing Total Suspended Solids from the industrial effluent? | Cooling           | Dissolved air flotation system | Equalisation        | Heating              |
| 11     | Water Cess Act was enacted in the year _____.   | 1977              | 1978                           | 1974                | 1988                 |
| 12     | What is the general standard for the discharge of Suspended solids (mg/l) in public sewers?   | 100               | 300                            | 600                 | 500                  |

# Environment

| Q. No.   | Question   | Option 1  | Option 2   | Option 3  | Option 4   |  |  |   |  |  |   |                   |                   |                   |                   |
|--|--|---|--|---|--|--|--|---|--|--|---|-------------------|-------------------|-------------------|-------------------|
| 13   | <p>Match the acts given in List 1 with the objectives given in List 2</p> <table><thead><tr><th>List 1</th><th>List 2</th></tr></thead><tbody><tr><td>1. Environment Protection Act 1986</td><td>a. To provide for public insurance for the purpose of providing immediate relief to the persons affected by accident while handling any hazardous substance.</td></tr><tr><td>2. The Manufacture, Storage, and Import of Hazardous Chemical Rules, 1989.</td><td>b. For setting standards of emission or discharge of environmental pollutants.</td></tr><tr><td>3. Management and Handling of Hazardous Waste, 1989</td><td>c. To set up an Authority to inspect, once a year, the industrial activity connected with hazardous chemicals and isolated storage facilities.</td></tr><tr><td>4. The Public Liability Insurance Act 1991</td><td>d. To control generation, collection, treatment, import, storage and handling of hazardous waste.</td></tr></tbody></table> | List 1  | List 2   | 1. Environment Protection Act 1986  | a. To provide for public insurance for the purpose of providing immediate relief to the persons affected by accident while handling any hazardous substance. | 2. The Manufacture, Storage, and Import of Hazardous Chemical Rules, 1989. | b. For setting standards of emission or discharge of environmental pollutants. | 3. Management and Handling of Hazardous Waste, 1989 | c. To set up an Authority to inspect, once a year, the industrial activity connected with hazardous chemicals and isolated storage facilities. | 4. The Public Liability Insurance Act 1991 | d. To control generation, collection, treatment, import, storage and handling of hazardous waste. | 1-c, 2-b, 3-d,4-a | 1-a, 2-c, 3-c,4-d | 1-b, 2-c, 3-d,4-a | 1-b, 2-c, 3-a,4-d |
| List 1   | List 2   |   |  |   |  |  |  |   |  |  |   |                   |                   |                   |                   |
| 1. Environment Protection Act 1986   | a. To provide for public insurance for the purpose of providing immediate relief to the persons affected by accident while handling any hazardous substance.   |   |  |   |  |  |  |   |  |  |   |                   |                   |                   |                   |
| 2. The Manufacture, Storage, and Import of Hazardous Chemical Rules, 1989. | b. For setting standards of emission or discharge of environmental pollutants.   |   |  |   |  |  |  |   |  |  |   |                   |                   |                   |                   |
| 3. Management and Handling of Hazardous Waste, 1989                        | c. To set up an Authority to inspect, once a year, the industrial activity connected with hazardous chemicals and isolated storage facilities.   |   |  |   |  |  |  |   |  |  |   |                   |                   |                   |                   |
| 4. The Public Liability Insurance Act 1991                                 | d. To control generation, collection, treatment, import, storage and handling of hazardous waste.  |   |  |   |  |  |  |   |  |  |   |                   |                   |                   |                   |
| 14   | Which of the following is a process for identifying and assessing the various environmental impacts associated with a particular product or services?  | Learn Adopt Assessment  | Environmental Impact assessment                                | Life Cycle Assessment   | Strategic Environmental Assessment   |  |  |   |  |  |   |                   |                   |                   |                   |
| 15   | Identify the qualitative pollutant from the given options?   | Carbon dioxide  | Nitrogen dioxide   | Fungicides  | Carbon monoxide  |  |  |   |  |  |   |                   |                   |                   |                   |
| 16   | How can the top management demonstrate leadership and commitment with respect to Environmental Management system?  | By ensuring the integration of the environmental management system requirements into the organization's business processes. | By providing a framework for setting environmental objectives. | By ensuring that the environmental management system conforms to the requirements of this International Standard. | By committing to fulfil its compliance obligations.  |  |  |   |  |  |   |                   |                   |                   |                   |

## Environment

| Q. No. | Question  | Option 1             | Option 2   | Option 3  | Option 4                                    |
|--------|---|----------------------|--|---|---|
| 17     | What is the maximum permissible annual concentration of Particulate matter (size <10µm) in industrial and residential areas?              | 40 µg/m <sup>3</sup> | 60 µg/m <sup>3</sup>                             | 80 µg/m <sup>3</sup>                              | 70 µg/m <sup>3</sup>                        |
| 18     | The _____ provides international guidelines to control the transboundary movement of hazardous waste between different countries.         | Basel Convention     | Montreal Protocol                                | Kyoto Protocol                                    | Paris Agreement                             |
| 19     | Under which category does the ecologically sensitive and important areas such as National Parks belong to as per Coastal Regulation Zone? | CRZ-I                | CRZ-II   | CRZ-III   | CRZ-IV                                      |
| 20     | As per GRI G4 guidelines which of the following is the third step in preparing a sustainability report?                                   | Obtain an overview   | Prepare to disclose general standard disclosures | Prepare to disclose specific standard disclosures | Choose the preferred "In Accordance option" |

## Answer Key

### General Aptitude: -

| Q. No.         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 3 | 2 | 2 | 3 | 2 | 1 | 3 | 3 | 1 | 3  | 1  | 4  | 3  | 2  | 3  | 2  | 1  | 3  | 1  | 3  |

### Occupational Safety and Health: -

| Q. No.         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 2 | 4 | 2 | 4 | 1 | 2 | 3 | 3 | 1 | 3  | 1  | 4  | 4  | 2  | 1  | 2  | 2  | 1  | 3  | 3  |

| Q. No.         | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 1  | 3  | 3  | 3  | 2  | 4  | 1  | 3  | 1  | 4  | 2  | 1  | 2  | 2  | 3  | 2  | 4  | 3  | 2  | 3  |

| Q. No.         | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 2  | 4  | 3  | 2  | 2  | 1  | 2  | 1  | 4  | 2  | 3  | 3  | 3  | 4  | 2  | 2  | 2  | 3  | 1  | 2  |

| Q. No.         | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 4  | 1  | 4  | 3  | 3  | 4  | 2  | 1  | 1  | 4  | 2  | 2  | 1  | 1  | 4  | 2  | 4  | 4  | 3  | 3  |

Environment: -

| Q. No.         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 1 | 3 | 1 | 2 | 1 | 3 | 2 | 3 | 1 | 2  | 1  | 3  | 3  | 3  | 3  | 1  | 2  | 1  | 1  | 2  |

NATIONAL SAFETY COUNCIL OF INDIA

## General 2024

### General Aptitude

| Q. No. | Question   | Option 1       | Option 2       | Option 3          | Option 4       |
|--------|--|----------------|----------------|-------------------|----------------|
| 1      | In the following sentence, substitute the italicized part with the correct option.<br>Radha <b><i>was dressed with</i></b> a green and red saree.  | was dressed up | was dressed in | was dressed of    | No improvement |
| 2      | Fill in the blanks with appropriate options.<br>_____ lecture made it difficult for the students to stay   | irrelevant     | recusant       | monotonous        | Arduous        |
| 3      | Choose the word that best expresses the meaning opposite of the italicized word.<br>It was <b><i>fortuitous</i></b> that I met Paul in that birthday party.  | unlucky        | abominable     | distressing       | fortunate      |
| 4      | Fill in the blanks with appropriate options.<br>Raju _____ very polite at the moment, because he wants to make a good impression in front of his colleagues.   | is being       | has been       | has been behaving | was being      |
| 5      | John starts from a point A and walks 8 km North, then turns left and walks 10 km, then turns left and walks 14 km up to the point B. What is the direction of John?  | North          | South          | East              | West           |
| 6      | In a certain code language, if 'PLAYER' is written as QNDCJX, how 'DANCER' will be written in the same language?   | ECOFJX         | ECQFKX         | ECQGKX            | ECQGJX         |
| 7      | J is sitting next to K and L is next to M. M is not sitting with N. N is on the extreme left of the bench and L is in 2nd position from right. J is on the right hand side of K and N. J and L are sitting next to each other. Who is sitting exactly in the middle? | N              | K              | J                 | M              |

|    |  |   |   |   |   |
|----|--|---|---|---|---|
| 8  | Find the missing number in the given series.<br>1, 2, 9, __, 65, 126, 217      | 28  | 37  | 46  | 19  |
| 9  | Which of the following has characteristics of transactional leadership?        | Believes success arises from leaders and staff working together | Seeks to involve staff in decision making process                                   | Seeks to ensure staff understand issues facing the organization | Takes the view that rewards and punishment motivate staff                                     |
| 10 | According to contingency theory, the ideal leader _____                        | Shapes the leadership style depending on the situation.         | Provides clear instructions to the followers so that they know what they are doing. | Knows what their strengths are and makes the most out of them.  | Spends time with their followers and therefore listens and responds to their needs.           |
| 11 | Choose the three situational criteria identified in the fielder model.         | Job requirements, position power and leadership ability         | Charisma, influence and leader-member relations                                     | Leader-member relations, task structure and position power      | Task structure, leadership ability and group activity   |
| 12 | Which of the following best describes leaders in high power distance cultures? | Making decisions without input from employees.                  | Subordinates can challenge their leaders.   | Seeking welfare of the organization.                            | Employees can address the leader by him name.   |
| 13 | Who is a transactional leader?   | Inspires people and has strong interactions with them.          | Does deals with people in order to get them to do things the leader wants.          | Someone who is involved in the organizational change.           | A leader who inspires the workers to new levels by offering them a vision of a better future. |



|    |  |  |  |  |  |
|----|--|--|--|--|--|
| 14 | In which type of leadership does the superior enjoy more   | Consultative Leadership                    | Autocratic Leadership                      | Free Rein                                    | None of these                                |
| 15 | Which set of terms given below is associated with the SMART acronym related to MBO?  | Specific, Management, Assignable, Relevant | Specific, Measurable, Achievable, Relevant | Synchronized, Matching, Attainable, Relevant | Supportive, Manageable, Achievable, Relevant |
| 16 | In MS PowerPoint presentations, the design regulate the layout and formatting for the slide. These are commonly known as.                      | Blueprints                                 | Placeholders                               | Templates                                    | Design Plates                                |
| 17 | What is the maximum zoom percentage in MS PowerPoint?  | 400  | 300  | 200  | 100  |
| 18 | Which of these refers to the PowerPoint view used for displaying only the text (tile and bullets)?   | Slide sorter show                          | slide view                                 | outline view                                 | notes page view                              |
| 19 | Formula in Excel starts with -----   | *  | /  | ?  | =  |
| 20 | Which of the following is a shortcut in excel to go to   | ALT+M                                      | ALT+N                                      | ALT+W  | ALT+H  |
| 21 | Which of the following cybercrime involved a significant ransomware attack that disrupted the operations of a major U.S fuel pipeline in 2021? | WannaCry attack                            | Colonial attack                            | NotPetya attack                              | Equifax data breach                          |

## Occupational Safety and Health

| Q. No. | Question   | Option 1  | Option 2  | Option 3  | Option 4  |
|--------|--|-----------|-----------|-----------|-----------|
| 1      | <p>Arrange the steps involved in the hierarchy of hazard controls in order:</p> <ol style="list-style-type: none"> <li>1. Administrative controls</li> <li>2. Substitution</li> <li>3. Engineering controls</li> <li>4. PPE</li> <li>5. Elimination</li> </ol> | 5,1,2,3,4 | 4,3,1,2,5 | 4,1,2,3,5 | 5,2,3,1,4 |
| 2      | <p>The LD50 of four different compounds (A, B, C, and D) are 1000 ppm, 100 ppm, 500 ppm, and 2000 ppm, respectively. Which of these compounds is more toxic?</p>   | A         | B         | C         | D         |
| 3      | <p>Men are at work in a room with an ambient temperature of 33 degrees Celsius. Calculate the WBGT index there if the wet bulb temperature and globe temperature readings are 30 degrees Celsius and 31 degrees Celsius, respectively.</p>                     | 30.5      | 30        | 30.8      | 30.3      |
| 4      | <p>Which is the IS code for industrial lighting?</p>   | IS 6665   | IS 4142   | IS 2189   | IS 6271   |

| 5               | Which of the following is an engineering control method for reducing noise exposure?   | Earplugs  | Enclosures or barriers   | Employee training and education                   | Job rotation  |                 |           |              |                   |               |               |               |               |
|-----------------|--|---|--|---|---|-----------------|-----------|--------------|-------------------|---------------|---------------|---------------|---------------|
| 6               | Match the occupational diseases with their causes:<br><table><tr><th>List I</th><th>List II</th></tr><tr><td>1. Byssinosis</td><td>a. Benzene</td></tr><tr><td>2. Liver Cancer</td><td>b. Cotton</td></tr><tr><td>3. Leukaemia</td><td>c. Vinyl chloride</td></tr></table> | List I  | List II  | 1. Byssinosis                                     | a. Benzene  | 2. Liver Cancer | b. Cotton | 3. Leukaemia | c. Vinyl chloride | 1-c, 2-a, 3-b | 1-b, 2-a, 3-c | 1-b, 2-c, 3-a | 1-a, 2-c, 3-b |
| List I          | List II  |   |  |   |   |                 |           |              |                   |               |               |               |               |
| 1. Byssinosis   | a. Benzene   |   |  |   |   |                 |           |              |                   |               |               |               |               |
| 2. Liver Cancer | b. Cotton  |   |  |   |   |                 |           |              |                   |               |               |               |               |
| 3. Leukaemia    | c. Vinyl chloride  |   |  |   |   |                 |           |              |                   |               |               |               |               |
| 7               | Which anthropometric measurement is crucial for designing office chairs?<br>1. Popliteal height<br>2. Body height<br>3. Sitting height   | Only 2  | Only 3   | Only 2 and 3                                      | 1, 2, and 3   |                 |           |              |                   |               |               |               |               |
| 8               | Which among the following statements about the Total Loss Control (TLC) technique is <b>wrong</b> ?  | Reviewing claim data is one of the steps in TLC | TLC minimizes interruptions of services provided to the public | TLC provides more insurance claims to the workers | TLC minimizes the frequency and severity of accidents |                 |           |              |                   |               |               |               |               |
| 9               | As per the Factories Act, an internal examination of the pressure vessel needs to be conducted once a _____.   | 12 months                                       | 6 months   | 18 months   | 24 months   |                 |           |              |                   |               |               |               |               |
| 10              | Which among the following is not an example of Hot work?   | Welding   | Grinding   | Brazing   | Painting  |                 |           |              |                   |               |               |               |               |

|    |   |  |   |  |  |
|----|---|--|---|--|--|
| 11 | A manufacturing company operates for 240 days in a year. The total hours worked by all the employees in that year were 1,00,00,000. The total number of lost days in the same year is reported as 180. Calculate the severity rate.   | 36   | 12  | 9  | 18   |
| 12 | The lost-time injury incidence rate is calculated by the formula _____.   | No. of lost-time injuries*1000/<br>average number of<br>persons employed | No. of lost-time<br>injuries*1000/average<br>number of persons<br>injured | No. of lost-time injuries with<br>total<br>disablement*1000/average<br>number of people employed | No. of lost-time injuries with<br>total<br>disablement*1000/average<br>number of persons injured |
| 13 | Which among the following has the least chance of being considered a work injury?   | Loss of a toe finger   | Amputation through the<br>shoulder joint                                  | Absolute deafness  | Hypertensive disease   |
| 14 | Which country did the Seveso disaster occur in?   | France   | Germany   | Italy  | Spain  |
| 15 | Match the following disasters with the compounds resulting in the disaster:<br><div> <div>List I</div> <div>List II</div> <div>1. Seveso Disaster    a. Methyl Isocyanate</div> <div>2. Bhopal Gas Tragedy    b. Dioxin</div> <div>3. Flixborough disaster    c. Cyclohexane</div> </div> | 1-c, 2-b, 3-a  | 1-b, 2-a, 3-c   | 1-c, 2-a, 3-b  | 1-a, 2-c, 3-b  |

|    |  |                 |               |              |              |
|----|--|-----------------|---------------|--------------|--------------|
| 16 | <p>Which among the following is/are the objective(s) of the National Policy on Safety, Health and Environment at Workplace?</p> <ol style="list-style-type: none"> <li>1. Continuous improvement of workers lifestyle and giving incentives</li> <li>2. Continuous reduction in the incidence of work related injuries, fatalities, diseases, disasters and loss of national assets</li> <li>3. Continually increasing community expectation of workplace health and safety standards</li> <li>4. Continuous enhancement of community awareness regarding safety, health and environment at workplace related areas</li> </ol> | Only 2, 3 and 4 | 1, 2, 3 and 4 | Only 1 and 2 | Only 3 and 4 |
| 17 | <p>Arrange the steps of Training Needs Assessment (TNA) in its order:</p> <ol style="list-style-type: none"> <li>1. Data Collection</li> <li>2. Implementation Strategy</li> <li>3. Analysis Phase</li> <li>4. Identifying Goals</li> <li>5. Developing Solution</li> </ol>  | 4-1-3-5-2       | 3-5-1-4-2     | 2-3-5-1-4    | 1-4-3-5-2    |

|    |  |   |  |  |   |
|----|--|---|--|--|---|
| 18 | The general illumination in areas on the dock where dock workers have to pass, shall be at least _____ lux, and at places where dock workers are employed, the illumination shall be at least _____ lux. | 25,50   | 10,25  | 20,40  | 50,75   |
| 19 | As per IS 5572, which location given below comes under Zone 2 of the hazardous area classification?  | Area with floating roof tanks of imperfectly fitting peripheral seals | Areas where the piping system is without valves. fittings, flanges | Areas in the immediate vicinity of vents and filling hatches | Area where the flammable vapours can be conducted through pipes, or ducts |
| 20 | If the HAZCHEM code of a substance is 4X, the type of medium to be employed by the fire services personnel is _____.   | Water based foam  | Dry agent  | Solid streams of water                                       | Water fog   |
| 21 | As per IS 2379, the ground colour used for the pipelines carrying water is _____.  | Sky blue  | Canary Yellow  | Sea Green  | Dark Violet   |
| 22 | The smothering technique affects the _____ component of the fire tetrahedron.  | Fuel  | Heat   | Oxygen   | Chemical Reaction   |
| 23 | What is the fire load of 100 kg of paper kept in a 20 sq. m. room? Given that the calorific value of paper is 3732 kcal/kg.  | 373200  | 18660  | 37320  | 74640   |
| 24 | The IS code used for the design of unfired pressure vessels is _____.  | IS 2825   | IS 2869  | IS 10987   | IS 3370   |

|    |  |   |   |   |   |
|----|--|---|---|---|---|
| 25 | Which of the following is an example of an inherently safer design strategy?   | Use of high-pressure equipment  | Substitution with less hazardous materials                              | Installation of multiple safety relief valves               | Use of a large inventory of hazardous materials |
| 26 | Which among the following statements is <b>wrong</b> about an explosive hazardous substance capable of high energy release but hard to initiate?                                     | The heat of decomposition is greater than 0.7 kcal/g                      | The reaction can or cannot be exothermic                                | The substance is sensitive to impacts                       | The substance is insensitive to impacts         |
| 27 | Which among the following techniques helps to standardize the operation for easy monitoring, controlling, comfort, safety, and simultaneously ensuring more productivity and profit? | One Point Lessons   | Safety Kaizen   | Tool Box Talks  | None of these                                   |
| 28 | Which of the following is <b>NOT</b> a benefit of implementing a behaviour-based safety program?   | Increased employee engagement in safety                                   | Reduced injury rates  | Improved safety culture                                     | Elimination of all workplace hazards            |
| 29 | Which among the following is a major advantage of using Management Information System (MIS) in Safety, Health and Environment?   | MIS facilitates the tracking of safety metrics and performance indicators | MIS facilitates quick access to critical information during emergencies | MIS facilitates organizations to identify potential hazards | All of these                                    |
| 30 | As per Frank Bird's 1969 theory, out of the total 641 events, only _____ may result in minor injuries and _____ in major injuries.   | 100, 10   | 30, 1   | 50, 5   | 75, 25  |

|    |  |   |   |  |                                       |
|----|--|---|---|--|---------------------------------------|
| 31 | Which of these is <b>NOT</b> a key principle of Heinrich's Theory?   | Preventing minor injuries prevents major ones | Unsafe acts are the primary cause of injuries | Management has direct control over safety    | Adequate safety training is essential |
| 32 | How many clauses are there in ISO 45001?   | 9   | 10  | 8  | 11                                    |
| 33 | Which type of machine guard is suitable when there is stock movement?  | Interlocked                                   | Fixed   | Adjustable                                   | Self-adjusting                        |
| 34 | Identify the function of an interlocked machine guard from the following:<br>1. Allows to accommodate various sizes of stocks<br>2. Prevent the machine from starting unless the guard is closed<br>3. Provide a physical barrier against hazards<br>4. Allows access to the machine for removing jams easily as compared to the fixed barriers. | Only 2, 3, and 4                              | Only 1, 2, and 3                              | Only 2                                       | 1, 2, 3, and 4                        |
| 35 | What is the purpose of a counter-balance system on a power press?  | To reduce operator fatigue                    | To prevent sudden die descent                 | To control the ram descent speed             | To absorb energy during a malfunction |
| 36 | What is the purpose of a load backrest extension on an industrial truck?   | To increase the load capacity                 | To prevent the load from shifting             | To protect the operator from falling objects | To stabilize the truck during travel  |



|    |   |               |               |                          |                        |
|----|---|---------------|---------------|--------------------------|------------------------|
| 37 | Identify the elements of the '5S' system?<br>1. Support<br>2. Sort<br>3. Sustain<br>4. Standardize<br>5. Shine  | 2, 3, 4 and 5 | 1, 2, 3 and 4 | Only 2, 3, and 4         | Only 2 and 3           |
| 38 | _____ is a painful condition that occurs when the median nerve in the wrist is compressed.  | Lumbago       | Thoracic pain | Myofascial pain syndrome | Carpal tunnel syndrome |
| 39 | Out of the following tests on equipment, which are all non-destructive testing methods?<br>1. Radiography<br>2. Tensile testing<br>3. Dye penetrant<br>4. Ultrasound  | Only 1 and 4  | 1, 2, and 4   | 1, 3, and 4              | Only 1                 |
| 40 | Which of the following are the common hazards in the steel industry?<br>1. Exposure to high temperatures<br>2. Exposure to toxic fumes<br>3. Exposure to loud noise<br>4. Exposure to radioactive materials | Only 1 and 2  | Only 2 and 3  | Only 1 and 4             | All of these           |
| 41 | As per Noise Pollution Rules 2000, the permissible noise levels in industrial areas are _____ dBA at daytime and _____ dBA at night-time.   | 90,85         | 75,70         | 85,75                    | 75,65                  |

|    |   |   |  |   |  |
|----|---|---|--|---|--|
| 42 | Which of the following statements about JSA is <b>WRONG</b> ?   | JSA is a proactive approach to identifying and mitigating workplace hazards | JSA can be used to develop safe work procedures and train employees              | JSA needs to be conducted only for new or non-routine tasks | JSA is a qualitative technique           |
| 43 | Which of the following is considered a major accident hazard as per MSIHC Rules?<br>1. Fire<br>2. Explosion<br>3. Release of toxic substances<br>4. Slip and fall accidents | Only 1 and 2  | Only 2   | 1, 2, 3, and 4  | Only 1, 2, and 3                         |
| 44 | Which of the following is <b>NOT</b> a typical component of an Onsite Emergency Plan?   | Procedures for emergency medical response                                   | Procedures for protective actions in nearby residential or non-residential areas | Procedures for evacuation                                   | Key personnel and their responsibilities |
| 45 | As per IS 18001, if an event that is very unlikely to happen and that is slightly harmful in nature occurs, the associated risk is _____.                                   | Trivial Risk  | Moderate Risk  | Tolerable Risk  | Substantial Risk                         |
| 46 | Which of the following is <b>NOT</b> a step in the MORT analysis process?   | Define the problem  | Construct the event sequence diagram   | Perform a quantitative risk assessment                      | Develop recommendations                  |

|    |   |                 |                             |                 |   |
|----|---|-----------------|-----------------------------|-----------------|---|
| 47 | <p>As per the Section 11 of The Factories Act, which of the following statement(s) is/are correct about the repainting of factory buildings?</p> <p>1. When they are painted with washable water-paint, be repainted at least once in every period of three years</p> <p>2. The whitewashing or colour washing shall be carried out at least once in every period of fourteen months</p> <p>3. When they are painted otherwise than with washable water-paint, be repainted at least once in every period of four years</p> | Only 1          | 1, 2, and 3                 | Only 2 and 3    | Only 1 and 2  |
| 48 | <p>Which of the following is/are covered under the Dock Workers (Safety, Health, and Welfare) Rules, 1990?</p> <p>1. Safe handling of goods</p> <p>2. Canteen and other facilities for workers</p> <p>3. Health of dock workers</p>   | 1, 2, and 3     | Only 1                      | Only 2 and 3    | Only 1 and 3  |
| 49 | <p>What is the maximum penalty for violating the provisions under sections 24 &amp; 25 of the Boilers Act, 1923?</p>  | Rs. 50,000 fine | Imprisonment up to 6 months | Rs. 25,000 fine | Imprisonment up to 2 years or fine up to Rs. 1,00,000 or both |

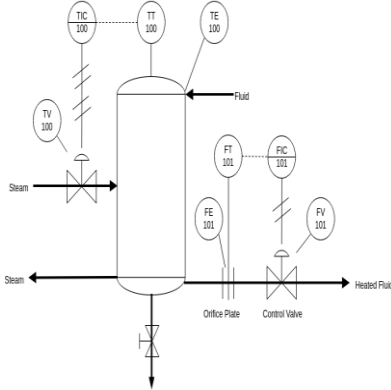
|    |  |   |  |   |   |
|----|--|---|--|---|---|
| 50 | Which of the following statements is <b>INCORRECT</b> with respect to the storage of petroleum products as per the Petroleum Rules 2002 ?  | Containers for petroleum Class A shall be constructed of tinned, galvanized or externally rustproofed sheet iron or steel | Normally the maximum capacity of a container storing Class A petroleum is 300 liters | Containers for petroleum Class B or petroleum Class C shall be constructed of steel or iron | An air space of not less than 3% of its capacity shall be kept in each container for petroleum Class A and B. |
| 51 | As per the Explosive Rules, 2008, Those explosives, which have a mass explosion risk and major missile effect, are categorized as _____.   | Category ZZ   | Category Z   | Category Y  | Category X  |
| 52 | As per The Regulation 79 of The CEA Regulations 2023, the underground power cable meant for use exceeding 33 kV shall be laid with a minimum underground depth of _____m and a minimum separation distance of _____m with underground telecommunication cable. | 1.2, 0.3  | 1.2, 0.6   | 1, 0.5  | 1.6, 0.5  |
| 53 | The PLI Act provides for the establishment of which of the following?  | Environment Relief Fund   | Hazardous Substances Management Authority  | National Green Tribunal   | Both Hazardous Substances Management Authority and National Green Tribunal                                    |

|    |  |   |  |   |   |
|----|--|---|--|---|---|
| 54 | Which of the following is <b>NOT</b> one of the four strategic objectives of the ILO?  | Promote and realize standards and fundamental principles and rights at work | Create greater opportunities for women and men to secure decent employment | Enhance the coverage and effectiveness of social protection for all       | Promote environmental sustainability                                      |
| 55 | As per NBC 2016, the height of all rooms for human habitation shall not be less than _____ m.  | 3   | 2.5  | 2.75  | 3.5   |
| 56 | Which of the following is <b>NOT</b> a requirement as per ISO 45001?   | Consultation and participation of workers                                   | Documented information management  | Compliance with legal and other requirements                              | Periodic external audits by an accredited certification body              |
| 57 | An equipment consists of three modules with constant failure rates of 0.002, 0.003 and 0.005. What is the mean time to failure of the equipment? | 1033 operating hours  | 200 operating hours  | 500 operating hours   | 100 operating hours   |
| 58 | Which of the following is a common anthropometric measurement?   | Body mass index (BMI)   | Heart rate   | Blood pressure  | Respiration rate  |
| 59 | Which of the following is the correct order of airflow during inhalation?  | Nose/mouth → pharynx → larynx → trachea → bronchi → bronchioles → alveoli   | Nose/mouth → trachea → larynx → bronchi → bronchioles → alveoli → pharynx  | Nose/mouth → pharynx → trachea → bronchi → alveoli → bronchioles → larynx | Nose/mouth → larynx → pharynx → trachea → bronchioles → bronchi → alveoli |
| 60 | What is the maximum time limit for filing a claim for compensation under the Workmen's Compensation Act,   | 1 year from the date of accident  | 2 years from the date of accident  | 3 years from the date of accident   | No specific time limit is mentioned in the Act                            |

|    |   |   |   |                               |                                   |
|----|---|---|---|-------------------------------|-----------------------------------|
|    | 1923?   |   |   |                               |                                   |
| 61 | Any claim for compensation under the Public Liability Insurance Act, 1991 should be filed within _____ years of the occurrence of the accident. | 1   | 2   | 3                             | 5                                 |
| 62 | What is the purpose of a safety interlock?  | To prevent machine operation if a guard is open | To override safety features in an emergency | To adjust machine settings    | To clean and maintain the machine |
| 63 | Which type of safeguarding device is designed to prevent the operator from reaching into the danger zone during the press cycle?                | Presence-sensing device                         | Safety interlock                            | Fixed barrier guard           | Emergency stop control            |
| 64 | What is the purpose of a Deadman switch on a portable power tool?   | To prevent accidental startup                   | To increase the tool's speed                | To adjust the tool's settings | To hold the workpiece in place    |
| 65 | As per Indian standards 4082, the maximum height for stack of cement bags is _____.   | 15 bags   | 10 bags                                     | 20 bags                       | 18 bags                           |

|    |  |                        |                        |   |                    |
|----|--|------------------------|------------------------|---|--------------------|
| 66 | Which of the following factors should be considered when determining the maximum height for stacking materials?<br>1. Type of material<br>2. Floor loading capacity<br>3. Size and weight of the stack | Only 2 and 3           | Only 2                 | Only 1 and 3                                | 1, 2 and 3         |
| 67 | Which NDT method is used to detect surface-breaking defects in non-ferromagnetic materials?  | Radiography            | Dye penetrant testing  | Magnetic particle testing                   | Ultrasonic testing |
| 68 | Which among the following are factors affecting SIL levels?  | Consequence of failure | Probability of failure | Both consequence and probability of failure | None of these      |

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|    |   |  |   |  |   |
|----|---|--|---|--|---|
| 69 | <p>Which among the following interpretations is wrong about the P &amp; ID given image?</p>    | There is a temperature control system for the vessel | The temperature indicator control sends electrical signals to the temperature valve | Flow control system is also there for the vessel | Flow indicator control is an instrument mounted on main panel |
| 70 | <p>Match the following <b>List 1</b> to <b>List 2</b> correctly as per CMV Rules, 1989:</p> <p><b>List 1:</b><br/>1. Diesel 2. TNT 3. Phenol 4. Oxygen Compressed</p> <p><b>List 2:</b><br/>a. Class 2 b. Class 6 c. Class 3 d. Class 1</p> | 1-a, 2-d, 3-b, 4-c                                   | 1-c, 2-d, 3-a, 4-b  | 1-c, 2-d, 3-b, 4-a                               | 1-c, 2-a, 3-b, 4-d  |
| 71 | Which of the following parameters determine the Material Factor (MF) in the Dow   | Conductivity   | Reactivity  | Toxicity   | Corrosivity   |



|    |  |   |                                       |                                    |   |
|----|--|---|---------------------------------------|------------------------------------|---|
|    | Fire and Explosion Index?  |   |                                       |                                    |   |
| 72 | Which technique is commonly used for maintenance work to prevent the formation of an explosive atmosphere in a confined space? | Venting   | Explosion suppression                 | Flame arrestor                     | Purging and inerting                    |
| 73 | What is the primary purpose of conducting a pre-start review during a plant safety inspection?                                 | Identify potential hazards before equipment is operated | Evaluate employee performance         | Test emergency response procedures | Check compliance with regulations       |
| 74 | Which technique aims to reduce the probability of a loss occurring?  | Loss prevention   | Loss reduction                        | Loss financing                     | Both Loss prevention and Loss reduction |
| 75 | What is the first step recommended by IS 14489 for conducting a safety and health audit?                                       | Selecting the audit team                                | Defining the audit scope and criteria | Preparing the audit plan           | Conducting the opening meeting          |
| 76 | Which of the following is <b>NOT</b> a key component of an effective Management Oversight and Risk Tree method?                | Established policies and procedures                     | Regular monitoring and reporting      | Corrective action plans            | Frequent changes in personnel           |

|    |  |  |   |  |   |
|----|--|--|---|--|---|
| 77 | The primary goal of behaviour-based safety is to _____.  | eliminate all workplace accidents                              | identify and correct unsafe behaviours        | impose strict safety rules and regulations             | provide safety training to employees            |
| 78 | The Heinrich Theory suggests that by addressing _____.   | unsafe acts/conditions more serious incidents can be prevented | serious injuries, near-misses will be reduced | property damage incidents, injuries will be eliminated | fatalities, all other incidents will be reduced |
| 79 | _____ is a Hazard Class 3 material   | Corrosive material   | Infectious substance                          | Flammable Liquid                                       | Radioactive material                            |
| 80 | Radioactive Materials falls under which class of hazardous substances?   | Class 7  | Class 4                                       | Class 8  | Class 3   |
| 81 | Which part of NFPA marking system implies flammability?  | white  | Blue  | Yellow   | Red   |
| 82 | Oil and Paint fire comes under which class of fire _____.  | Class B  | Class A                                       | Class C  | Class D   |
| 83 | In which method of hazard analysis a series of questions are asked?  | HAZOP study  | Checklist                                     | What -if analysis                                      | Failure mode & effect analysis                  |
| 84 | The written emergency information carried by the driver of all vehicles carrying hazardous substances is known as _____. | HAZCHEM  | TREMCARD                                      | Emergency Information Panel                            | None of the above                               |
| 85 | As per IS17889, how many sections are provided in MSDS?  | 8  | 9   | 10   | 16  |

|    |   |   |  |  |               |
|----|---|---|--|--|---------------|
| 86 | As per IS 17893, the original copy of work permit shall be kept by the issuer for a period of at least _____ days from the closure of permit.                     | 15  | 20   | 30   | 365           |
| 87 | Time duration for TLV STEL is _____.  | 30 minutes                                | 1 hours  | 15 minutes                                       | None of these |
| 88 | Body Mass Index is calculated as _____.   | Body weight in kg/Height in meter squared | Body weight in pounds/Height in inches squared | Body weight in kg/ Height in centimetres squared | None of these |
| 89 | Which color background on the hazard label signifies a substance that is water reactive according to UN Committee of Experts on the Transport of Dangerous Goods? | Orange                                    | Red  | Blue   | Yellow        |
| 90 | As per IS 9457, the shape of warning sign is _____.   | Circular                                  | Square   | Triangular                                       | Rectangluar   |

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## Environment

| Q. No. | Question  | Option 1  | Option 2  | Option 3  | Option 4  |
|--------|---|---|---|---|---|
| 1      | Which component of an Environmental Management System (EMS) involves setting environmental objectives and targets?                                    | Environmental policy  | Environmental audit   | Environmental planning  | Environmental monitoring                                      |
| 2      | Which authority is regulated the Air pollution control activity at union territory?   | CPCB  | SPCB  | MoEF&CC   | NDMA  |
| 3      | What is the permissible noise level (in decibels) for residential areas during the daytime under the Noise Pollution Rules 2000?                      | 45 dB   | 55 dB   | 65 dB   | 75 dB   |
| 4      | Which of the following does <b>NOT</b> fall under the definition of "Trade Effluent" provided under the Water Act of 1974?                            | Liquid, gaseous or solid substance from any operation or process                    | Liquid, gaseous or solid substance from treatment and disposal system | Domestic sewage   | Gaseous or solid substance from an industry                   |
| 5      | Which body can take punitive action with respect to illegal release of hazardous microorganism under the Environmental Protection Act at state level? | State Genetic Engineering approve committee   | Institutional biosafety committee                                     | Review committee on genetics manipulation                               | State Biotechnology Co-ordination Committee                   |
| 6      | According to the MSIHC Rules 1989, what is the primary objective of conducting a Hazard and Operability Study (HAZOP)?                                | Identifying potential safety hazards and risks associated with industrial processes | Developing emergency response plans for industrial accidents          | Evaluating the financial implications of safety measures implementation | Determining the environmental impact of industrial operations |

|    |  |   |  |   |   |
|----|--|---|--|---|---|
| 7  | According to the MSIHC Rules 1989, what is the frequency of updating the safety report?  | 1   | 2  | 3   | 5   |
| 8  | In accordance with Section 40 of the Air Act 1981, when an offence is committed by a company, _____ shall be deemed to be guilty of the offence and shall be liable to be against and published accordingly. | Only the company  | Depend on the facts and circumstances of the case                | Every person, who at the time the offence was committed, was directly in charge of the company for the conduct of the business of the company and the company itself. | Only the person(s) who at the time offence was committed was directly in charge of the company or the conduct of the business of the company. |
| 9  | What is <b>NOT</b> a role of state pollution control boards (SPCBs) in contributing to air pollution control strategies under the Air Act, 1981?   | Developing and implementing air quality management plans        | Promoting public awareness campaigns on air pollution prevention | Monitoring ambient air quality through a network of monitoring stations   | Administering financial incentives to industries for adopting cleaner technologies  |
| 10 | Which component of a Sewage Treatment Plant (STP) is responsible for the removal of suspended solids and sediments from wastewater?  | Clarifier   | Aeration tank  | Trickling filter  | Pressure filter   |
| 11 | Which one of the following is the white category of Biomedical Waste Management Rules, 2016 in India?  | Microbiology, Biotechnology and other clinical laboratory waste | Contaminated Waste (Recyclable)                                  | Glassware   | Waste Sharps including metals   |

|    |   |  |   |   |  |
|----|---|--|---|---|--|
| 12 | What is the main objective of implementing ISO 50001 in an organization?  | To enhance product quality                         | To promote water conservation                           | To increase production                        | To reduce energy consumption and costs |
| 13 | What is the cause of bulking of sludge?   | Growth of filamentous bacteria                     | Low pH levels   | Bacteria in primary sludge tank               | Uncontrolled growth of algae           |
| 14 | Identify correct statement about the Centrifugal collector.   | It can remove gaseous and particulate contaminants | Dynamic precipitator is a type of Centrifugal collector | It has higher efficiency in comparison to ESP | It need height electricity supply      |
| 15 | Which among the following is the goal of solid waste incineration?<br>(i) Volume increment (ii) Volume reduction (iii) Stabilization of waste (iv) Recovery of energy from waste (v) Sterilization of waste                       | Only (i) and (iv)                                  | Only (iii) and (iv)                                     | (ii), (iii), (iv) and (v)                     | Only (ii) and (iv)                     |
| 16 | Arrange the following environmental management concept in the descending order of their importance (most important to least important).<br>(i) Waste Disposal<br>(ii) Pollution Control<br>(iii) Reuse<br>(iv) Waste minimization | (i), (ii), (iii), (iv)                             | (iv), (iii), (ii), (i)                                  | (iii), (iv), (ii), (i)                        | (iii), (iv), (i), (ii)                 |

|    |  |                              |                            |                                 |                     |
|----|--|------------------------------|----------------------------|---------------------------------|---------------------|
| 17 | If a sewage sample incubated at 20°C for 5 days at 3% solution results in a 3 ppm depletion of oxygen, the BOD of sewer is _____.  | 250 ppm                      | 170 ppm                    | 70 ppm                          | 100 ppm             |
| 18 | Which air pollution control device is commonly used to reduce sulphur dioxide (SO <sub>2</sub> ) emissions from coal-fired power plants?   | Wet scrubber                 | Electrostatic precipitator | Baghouse filter                 | Catalytic converter |
| 19 | How many missions have been identified under the National Action Plan on Climate Change (NAPCC) by Govt of India released on 30th June 2008?   | 5                            | 8                          | 11                              | 3                   |
| 20 | As per Rule 8 of Hazardous and Other Wastes Rules 2016, Small Quantity Generator (up to ten tonnes per annum) of Hazardous waste can store in its premises for how many days without special permission? | 365 days                     | 90 days                    | 180 days                        | 500 days            |
| 21 | Name the special judicial body that was established by law passed in 2010 to hear environmental cases at national level?   | National Appellate Authority | National Green Tribunal    | Comptroller and Auditor General | None of these       |

## Answer Key

### General Aptitude: -

| Q. No.         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------|---|---|---|---|---|---|---|---|---|----|
| Correct Option | 2 | 3 | 1 | 1 | 2 | 4 | 3 | 1 | 4 | 1  |

| Q. No.         | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 3  | 1  | 2  | 2  | 2  | 3  | 1  | 3  | 4  | 1  | 2  |



## Occupational Safety and Health: -

| Q. No.         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|----------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 4 | 2 | 4 | 1 | 2 | 3 | 4 | 3 | 1 | 4  | 4  | 1  | 4  | 3  | 2  | 1  | 1  | 2  | 4  | 2  | 3  | 3  | 2  | 1  | 2  |

| Q. No.         | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 3  | 2  | 4  | 4  | 2  | 3  | 2  | 4  | 1  | 2  | 3  | 1  | 4  | 3  | 4  | 2  | 3  | 4  | 2  | 3  | 3  | 4  | 1  | 4  | 4  |

| Q. No.         | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 2  | 2  | 1  | 4  | 3  | 4  | 4  | 1  | 1  | 2  | 4  | 1  | 3  | 1  | 2  | 4  | 2  | 3  | 2  | 3  | 2  | 4  | 1  | 1  | 2  |

| Q. No.         | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 4  | 2  | 1  | 3  | 1  | 4  | 1  | 3  | 2  | 4  | 3  | 3  | 1  | 3  | 3  |

## Environment: -

| Q. No.         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------|---|---|---|---|---|---|---|---|---|----|
| Correct Option | 3 | 1 | 2 | 3 | 4 | 1 | 3 | 3 | 4 | 1  |

| Q. No.         | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|
| Correct Option | 4  | 4  | 1  | 2  | 3  | 2  | 4  | 1  | 2  | 2  | 2  |

## General Aptitude

| S. No. | Question  | Choice 1   | Choice 2  | Choice 3   | Choice 4  |
|--------|---|--|---|--|---|
| 1      | Which of the following is a synonym for the word "abundant"?  | Scarcity   | Limited   | Rare   | Plentiful                                       |
| 2      | Fill in the blank according to the passage:<br>They already _____ a lot of food on platter, when waiter asked for more pasta.   | had  | take  | have   | bought  |
| 3      | Fill in the blank according to the passage:<br>How _____ you pay the rent with no job?  | should   | had   | will   | are   |
| 4      | Find the appropriate meaning of the highlighted phrase:<br>"I have decided to see the project through <b>come what may</b> ."   | To give up on the project                                  | To continue with the project regardless of difficulties | To delegate the project to someone else                    | To postpone the project                         |
| 5      | Find the appropriate meaning of the highlighted phrase:<br>"After a long day of hiking, Sarah was <b>on cloud nine</b> as she watched the sunset from the mountaintop."   | Feeling tired and exhausted                                | Feeling indifferent and uninterested                    | Feeling disappointed and upset                             | Feeling euphoric and extremely happy            |
| 6      | Convert the sentence into indirect speech.<br>Martin asked her teacher, "When is the assignment due?"   | Martin asked her teacher when would the assignment be due. | Martin asks her teacher when the assignment is due.     | Martin asked her teacher when the assignment would be due. | When is the assignment due? Is asked by Martin. |
| 7      | Arrange the sentences given below in a meaningful sequence.<br>1. where vibrant colours blended with the cacophony of diverse cultures,<br>2. painted against the canvas of time.<br>3. Amidst the bustling city streets,<br>4. each moment, a snapshot of human experience | 1<2<4<3  | 3<2<1<4   | 1<4<3<2  | 3<1<4<2   |
| 8      | N is the husband of E. W is the mother of N. How is W related to E?   | Daughter in law  | Daughter  | Mother   | Mother in Law                                   |
| 9      | Find the next term of the series: 11, 47, 89, 137, 191, ...   | 261  | 251   | 241  | 271   |
| 10     | Prabhash is standing 20 m north of Sumit, who is standing 15 m west of Rahul. Pappu is standing 20 m south of Rahul, who is 15 m east of Somesh. In which direction and how far is Prabhash from Somesh?  | South, 35 m  | South, 40 m   | North, 35 m  | North, 40 m                                     |
| 11     | Arrange the following words in a meaningful sequence<br>1. Frog, 2. Grass, 3. Grasshopper, 4. Eagle, 5. Snake   | 2, 3, 1, 5, 4  | 3, 2, 1, 4, 5   | 2, 1, 3, 4, 5  | 4, 5, 1, 3, 2                                   |
| 12     | The day before yesterday was Saturday. What will be the day after to  | Thursday   | Friday  | Wednesday  | Monday  |
| 13     | Which leadership skill involves the ability to inspire and motivate team members towards a shared vision or goal?   | Technical expertise  | Delegation  | Communication  | Coaching and mentoring                          |
| 14     | You are assigned a new team in order to build positive relationships and enhance team effectiveness. Which key skill will you require?  | Emotional intelligence                                     | Time management   | Decision-making  | Conflict resolution                             |
| 15     | A team leader consistently addresses disagreements and misunderstandings in a constructive manner. What leadership skill is exemplified in the scenario?  | Strategic thinking   | Problem solving   | Adaptability   | Active communication                            |
| 16     | A critical task has been assigned to your team that requires strong coordination, quick decision-making, and efficient problem-solving. What leadership skill should you primarily focus on to ensure the success of the project?   | Technical expertise  | Delegation  | Communication  | Conflict resolution                             |
| 17     | Which of the following is an example of a spreadsheet software?   | MS Excel   | Powerpoint  | MS Word  | Paint   |
| 18     | Watson needs to collaborate with her team members who are working remotely on the same project. Which technology will allow real-time collaboration and document sharing?   | Web search engine  | Augmented Reality (AR)                                  | Cloud computing  | Artificial Intelligence (AI)                    |
| 19     | In a presentation of a power point, special effects used to introduce slides is,  | Animation  | Transition  | Anotation  | None of the above                               |
| 20     | The error value correspondig to the Excell expression =(0/0) is;  | NULL   | Zero  | Infinity   | None of the above                               |





# Safety

| S.No.  | Question  | Image      | Option 1   | Option 2  | Option 3   | Option 4   |  |                               |   |                                    |  |               |                    |                    |                    |                    |
|--|---|------------|--|---|--|--|--|-------------------------------|---|------------------------------------|--|---------------|--------------------|--------------------|--------------------|--------------------|
| 1  | Which of the following statements is true about the Job Safety Analysis (JSA)?  |            | JSA focuses on Work area, Men, Machine and Tools             | JSA focuses on Men, Machine, Material and Tools                 | JSA focuses on Work Area, Material, machine and Tools  | JSA focuses on Men, Work area, Material and Tools        |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 2  | Which of the options mentioned best describes the concept of organizing to ensure safety, health, and efficient work practices?   |            | Executing new technologies to increase work efficiency       | Organizing and Directing safety initiatives for their man power | Maintaining competitive work Environment   | Evolving new marketing schemes for health results        |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 3  | Match the following question with correct answers on safety, education and training.<br><table><tr><th>Left side:</th><th>Right side:</th></tr><tr><td>a. Safety education and training.</td><td>1. Simulation of emergency situation and evaluate employees response</td></tr><tr><td>b. Reinforcement of safety practices among employees by.</td><td>2. Promoting safety conscious culture and minimizing work place hazards.</td></tr><tr><td>c. Major goal of safety drill</td><td>3. Regular safety training sessions and workshops</td></tr></table>   | Left side: | Right side:  | a. Safety education and training.                               | 1. Simulation of emergency situation and evaluate employees response                                   | b. Reinforcement of safety practices among employees by. | 2. Promoting safety conscious culture and minimizing work place hazards.                   | c. Major goal of safety drill | 3. Regular safety training sessions and workshops   |                                    | a-2, b-1, c-3  | a-2, b-3, c-1 | a-1, b-2, c-3      | a-2, b-3, c-1      |                    |                    |
| Left side:   | Right side:   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| a. Safety education and training.                        | 1. Simulation of emergency situation and evaluate employees response  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| b. Reinforcement of safety practices among employees by. | 2. Promoting safety conscious culture and minimizing work place hazards.  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| c. Major goal of safety drill                            | 3. Regular safety training sessions and workshops   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 4  | How does ensuring a safe workplace impact employee morale and productivity?   |            | Safe workplace has no impact on employee morale              | It decreases employee job satisfaction                          | Creating a safe workplace leads to a reduction in employee stress and an increase in morale            | It decreases the employee productivity                   |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 5  | In the ABC model in Behaviour based Safety ABC Stands for:  |            | Antecedent, Behaviour, Consequence                           | Acceptance, Behaviour, Control                                  | Ancestor, Behaviour, Consequence   | Antecedent, Behaviour, Concern                           |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 6  | What purpose does data processing serve within an MIS?  |            | Collection of data from various sources                      | To store processed data in databases                            | To organize, sort, and transform data into meaningful information                                      | To generate reports and dashboards                       |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 7  | Match the following question with the right side name of the theories and their explanations.<br><table><tr><th>Left side:</th><th>Right side:</th></tr><tr><td>a. Heinrich's Domino Theory,</td><td>1. Views accidents as failures within a complex system, exploring interactions among various elements,</td></tr><tr><td>b. Human Factors Theory,</td><td>2. Focuses on energy release as a central element in accidents and the need to control it.</td></tr><tr><td>c. Systems Theory,</td><td>3. Proposes that accidents are the result of a sequence of events, similar to falling dominoes,</td></tr><tr><td>d. Energy Release Theory</td><td>4. Emphasizes the role of human error and individual behavior in accident causation.</td></tr></table> | Left side: | Right side:  | a. Heinrich's Domino Theory,                                    | 1. Views accidents as failures within a complex system, exploring interactions among various elements, | b. Human Factors Theory,                                 | 2. Focuses on energy release as a central element in accidents and the need to control it. | c. Systems Theory,            | 3. Proposes that accidents are the result of a sequence of events, similar to falling dominoes, | d. Energy Release Theory           | 4. Emphasizes the role of human error and individual behavior in accident causation. |               | a-3, b-1, c-4, d-2 | a-2, b-1, c-4, d-3 | a-3, b-4, c-1, d-2 | a-2, b-4, c-1, d-3 |
| Left side:   | Right side:   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| a. Heinrich's Domino Theory,                             | 1. Views accidents as failures within a complex system, exploring interactions among various elements,  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| b. Human Factors Theory,                                 | 2. Focuses on energy release as a central element in accidents and the need to control it.  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| c. Systems Theory,                                       | 3. Proposes that accidents are the result of a sequence of events, similar to falling dominoes,   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| d. Energy Release Theory                                 | 4. Emphasizes the role of human error and individual behavior in accident causation.  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 8  | Which kind of emergency in industrial settings can arise due to flammable gases, or chemical reactions, dust, potentially causing abrupt releases of energy and resulting in damage?  |            | Fire emergencies   | Explosions  | emical leakage and spill   | Radiological Incidents                                   |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 9  | Risk is defined as;   |            | Probability X Hazard   | Accident X Probability  | obability X Consequenc   | Consequences X Hazard                                    |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 10   | Which of the following is/are physical hazard agent(s)  |            | Falls  | Electricity   | Noise  | All of these   |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 11   | ABC in the First  |            | Airway, Bandage and Call medical emergency                   | Airways, Breathing and Circulation                              | Ambulance, Bandage and Circulation   | Airway, Breathing and Call medical emergency             |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 12   | What is the main objective of safety guarding in machine operation?   |            | Unintentional machine shutdown                               | Provide physical barrier  | More efficient machine operation   | Extended maintenance periods                             |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 13   | Match the Following.<br><table><tr><th>Left side:</th><th>Right side:</th></tr><tr><td>1. Machine Operation,</td><td>a. Identifying potential hazards associated with machinery,</td></tr><tr><td>2. Safety Guarding,</td><td>b. Quickly halts machinery during critical situations,</td></tr><tr><td>3. Risk Assessment,</td><td>c. Implementing protective barriers and mechanisms</td></tr><tr><td>4. Emergency Stop Button</td><td>d. Proper usage and control of industrial equipment</td></tr></table>  | Left side: | Right side:  | 1. Machine Operation,   | a. Identifying potential hazards associated with machinery,  | 2. Safety Guarding,                                      | b. Quickly halts machinery during critical situations,                                     | 3. Risk Assessment,           | c. Implementing protective barriers and mechanisms  | 4. Emergency Stop Button           | d. Proper usage and control of industrial equipment                                  |               | 1-d, 2-c, 3-b, 4-a | 1-b, 2-c, 3-a, 4-d | 1-b, 2-a, 3-c, 4-d | 1-d, 2-c, 3-a, 4-b |
| Left side:   | Right side:   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 1. Machine Operation,                                    | a. Identifying potential hazards associated with machinery,   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 2. Safety Guarding,                                      | b. Quickly halts machinery during critical situations,  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 3. Risk Assessment,                                      | c. Implementing protective barriers and mechanisms  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 4. Emergency Stop Button                                 | d. Proper usage and control of industrial equipment   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 14   | What safety mechanisms are employed to avoid unintended or repeated press strokes in power presses?   |            | Anti-repeat controls   | Noise reduction systems   | Two-hand controls  | Vibration dampers  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 15   | Identify the most effective risk control measure related to use of power tool from the statements given.  |            | use of battery powered tool                                  | inspecting tool before use                                      | use hand gloves to minimise vibration  | use of tool tie to avoid dropping of tools               |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 16   | In the context of manual handling, what does the study of kinetics primarily focus on?  |            | Biomechanics and physical principles of forces and movements | Psychological elements influencing task performance             | The impact of culture on manual handling techniques  | Environmental circumstances during manual activities     |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 17   | What is the main objective behind incorporating safe distances into the design of plant layouts?  |            | Improving Visual Appeal                                      | Ensuring Operational Safety                                     | Lowering maintenance expenses  | Increasing storage capacity                              |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 18   | Which precautionary step is effective in avoiding unintentional activation of electrical systems while performing maintenance tasks?  |            | Arc Flash Protection   | Lockout and Tagout  | Grounding Methods  | Electrostatic discharge                                  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 19   | Match the following Overload and Short Circuit Protection types with their definition.<br><table><tr><th>Left side:</th><th>Right side:</th></tr><tr><td>a. Circuit Breakers,</td><td>1. Monitors the difference between incoming and outgoing currents to detect short circuits,</td></tr><tr><td>b. Fuses,</td><td>2. Monitors temperature and trips the circuit in case of overheating.</td></tr><tr><td>c. Thermal Overload Relays,</td><td>3. Melts when current exceeds a certain threshold, breaking the circuit.</td></tr><tr><td>d. Differential Current Protection</td><td>4. Automatically disconnects the circuit when current exceeds a safe limit</td></tr></table>   | Left side: | Right side:  | a. Circuit Breakers,  | 1. Monitors the difference between incoming and outgoing currents to detect short circuits,            | b. Fuses,  | 2. Monitors temperature and trips the circuit in case of overheating.                      | c. Thermal Overload Relays,   | 3. Melts when current exceeds a certain threshold, breaking the circuit.                        | d. Differential Current Protection | 4. Automatically disconnects the circuit when current exceeds a safe limit           |               | a-2, b-4, c-3, d-1 | a-1, b-2, c-3, d-4 | a-4, b-3, c-2, d-1 | a-4, b-2, c-3, d-1 |
| Left side:   | Right side:   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| a. Circuit Breakers,                                     | 1. Monitors the difference between incoming and outgoing currents to detect short circuits,   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| b. Fuses,  | 2. Monitors temperature and trips the circuit in case of overheating.   |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| c. Thermal Overload Relays,                              | 3. Melts when current exceeds a certain threshold, breaking the circuit.  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| d. Differential Current Protection                       | 4. Automatically disconnects the circuit when current exceeds a safe limit  |            |  |   |  |  |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 20   | What classification of workplace hazard encompasses elements such as noise, extreme temperatures, and ergonomic stressors?  |            | Chemical Hazards   | Mechanical Hazards  | Biological Hazards   | Physical Hazards   |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 21   | What measure should be put in place to deal with chemical spills within agro/sugar industries?  |            | Emergency Planning   | Machinery Protection  | Fall Protection  | Heat stress Management                                   |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 22   | What action is crucial for mitigating the hazard of insufficient training in on-board cargo handling operations?  |            | Providing personal protective equipment (PPE)                | Providing comprehensive training                                | ducting regular inspect  | Improving ventilation and monitoring                     |  |                               |   |                                    |  |               |                    |                    |                    |                    |
| 23   | What preventive action can be taken in the IT, electronic, and related service sectors to mitigate the risks associated with radiation exposure?  |            | Stress management programs                                   | Ergonomic furniture   | Suppression systems  | Shielding and safety regulations                         |  |                               |   |                                    |  |               |                    |                    |                    |                    |

| 24                            | Which of the following is true for Interlock machine Guard;  |   | Requires a key   | the machine if they are  | omatically if the mac  | Are battery operated   |  |                            |   |  |               |               |               |               |
|-------------------------------|--|---|--|--|--|--|--|----------------------------|---|--|---------------|---------------|---------------|---------------|
| 25                            | The purpose of a lock-out/tag-out procedure is to;   |   | Improve productivity   | Secure harmful energy sources  | Slow down work   | Save money   |  |                            |   |  |               |               |               |               |
| 26                            | SCBA stands for  |   | Self Closing Body Apparatus  | Safe Control Body Apparatus  | Self Contained Breathing Apparatus   | Self Contained Body Apparatus  |  |                            |   |  |               |               |               |               |
| 27                            | What is the term used to describe the process of evaluating the severity ( seriousness) and probability of risks?  |   | Risk Assessment  | Probability Estimation   | Hazard Identification  | Incident Investigation   |  |                            |   |  |               |               |               |               |
| 28                            | Match the following in Column A with their description in Column B.  |   |  |  |  |  |  |                            |   |  |               |               |               |               |
|                               | <table><tr><th>Column A</th><th>Column B</th></tr><tr><td>1. Process Safety Management</td><td>a. Analyzing and understanding the root causes of accidents</td></tr><tr><td>2. Incident Investigation</td><td>b. Assessing the performance of safety barriers and controls</td></tr><tr><td>3. Safeguard Effectiveness</td><td>c. Integrating risk management principles into safety practices</td></tr></table> | Column A  | Column B   | 1. Process Safety Management   | a. Analyzing and understanding the root causes of accidents                  | 2. Incident Investigation  | b. Assessing the performance of safety barriers and controls | 3. Safeguard Effectiveness | c. Integrating risk management principles into safety practices |  | 1-b, 2-c, 3-a | 1-c, 2-a, 3-b | 1-b, 2-a, 3-c | 1-c, 2-b, 3-a |
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|                               | 1. Process Safety Management   | a. Analyzing and understanding the root causes of accidents |  |  |  |  |  |                            |   |  |               |               |               |               |
| 2. Incident Investigation     | b. Assessing the performance of safety barriers and controls   |   |  |  |  |  |  |                            |   |  |               |               |               |               |
| 3. Safeguard Effectiveness    | c. Integrating risk management principles into safety practices  |   |  |  |  |  |  |                            |   |  |               |               |               |               |
| 29                            | What was the main type of substance that played a central role in the Mexico Tank Farm disaster?   |   | Water  | Liquefied Petroleum Gas (LPG)  | Gasoline   | Coal   |  |                            |   |  |               |               |               |               |
| 30                            | What important regulatory body was established as a result of the Flixborough disaster to oversee safety in major hazard industries?   |   | Environmental Protection Agency (EPA)                                  | Occupational Safety and Health Administration (OSHA)                     | Hazardous Installations Directorate of the Health and Safety Executive (HSE) | Industrial Safety Committee (ISC)                                    |  |                            |   |  |               |               |               |               |
| 31                            | What is the name of gas leaked from LG Polymers at Visakhapatnam on 7 <sup>th</sup> may 2020?  |   | Chlorine   | Styrene  | Methyl Isocyanate  | Ammonia  |  |                            |   |  |               |               |               |               |
| 32                            | In India, Fire service week is observed in remembrance of the lives lost in the following disaster;  |   | Uphar cinema fire in delhi   | Bhopal gas disaster  | Circus fire in Bangalore   | Bombay Port fire   |  |                            |   |  |               |               |               |               |
| 33                            | What is the main objective of taking into account criteria for the location and arrangement of chemical plants?  |   | Increasing Earnings  | Ensure safety, environmental protection, and operational efficiency      | Reduce Regulatory Compliance   | Reduce Transportation Expenses                                       |  |                            |   |  |               |               |               |               |
| 34                            | What does VOC stand for in the context of nitrogen blanketing?   |   | Volatile Oxygen Components   | Volatile Organic Compounds   | Ventilation of Oxygen Concentration  | Viscosity of Organic Chemicals                                       |  |                            |   |  |               |               |               |               |
| 35                            | What should you do if you accidentally splash a corrosive chemical on your skin?   |   | Rinse the affected region with plenty of water for at least 15 minutes | Rub the affected area to remove the chemical                             | Bandage the area and continue working  | Apply an alcohol-based sanitizer to neutralize the chemical          |  |                            |   |  |               |               |               |               |
| 36                            | What is the purpose of conducting a Pre-Start-Up Safety Review (PSSR) before initiating plant operations?  |   | Evaluate Personnel performance during startup                          | Ensure equipment maintenance is current                                  | Identify potential safety issues and verify readiness                        | Review finacial aspects of the plant's operations                    |  |                            |   |  |               |               |               |               |
| 37                            | What does the "PASS" acronym stand for in relation to using a fire extinguisher?   |   | Prevent, Alert, Suppress, Secure                                       | Pull, Aim, Squeeze, Sweep  | Push, Adjust, Stop, Switch   | Prepare, Assess, Select, Start                                       |  |                            |   |  |               |               |               |               |
| 38                            | Which form of combustion results in the production of carbon monoxide as a secondary product?  |   | Complete Combustion  | Incomplete Combustion  | Spontaneous combustion   | Rapid combustion   |  |                            |   |  |               |               |               |               |
| 39                            | Which of the following is NOT a common application of pressure vessels?  |   | Air conditioning units   | Steam boilers  | Propane grills   | Water heaters  |  |                            |   |  |               |               |               |               |
| 40                            | If a gas cylinder has yellow colour band at its neck end, Which gas contains in it?  |   | Non flambabel and non toxic  | Flammable but toxic  | Flammable and non toxic  | Non flammable but toxic  |  |                            |   |  |               |               |               |               |
| 41                            | Which of the following is commonly employed to recognize potential dangers in operating chemical process plants?   |   | Process optimization   | Safety audit   | Environmental impact assessment  | Hazard and Operability Study (HAZOP)                                 |  |                            |   |  |               |               |               |               |
| 42                            | What is the time limit of STEL for chemical exposure to a person?  |   | 8 Hours  | 60 Minutes   | 15 Minutes   | 5 Minutes  |  |                            |   |  |               |               |               |               |
| 43                            | What kind of details are usually incorporated into a safety checklist?   |   | Safety Precautions and Procedures                                      | Equipment Purchase Dates   | Task Deadlines   | Employee Salaries  |  |                            |   |  |               |               |               |               |
| 44                            | Which device employs light-emitting diodes (LEDs) and phototransistors to accomplish electric isolation?   |   | Inductors  | Transformers   | Capacitors   | Optoisolators  |  |                            |   |  |               |               |               |               |
| 45                            | In the Swiss Cheese Model of accident causation, what does each "slice" of cheese represent?   |   | Layers of protection in a safety system                                | Different types of incidents   | The chronological sequence of events in an accident                          | The location of the incident   |  |                            |   |  |               |               |               |               |
| 46                            | What is the primary purpose of analyzing near-miss incidents?  |   | Assigning blame to persons involved                                    | Demonstrating the effectiveness of safety systems                        | Learning from potential hazards and preventing future accidents              | Playing down the impact of small incidents                           |  |                            |   |  |               |               |               |               |
| 47                            | How is the Severity Rate (SR) calculated?  |   | (Total number of incidents / Total hours worked) x 200,000             | (Total Man-days lost due to injuries / Total Man-hours worked) x 100,000 | (Total number of accidents / Total number of employees) x 100                | (Total number of near-miss incidents / Total hours worked) x 100,000 |  |                            |   |  |               |               |               |               |
| 48                            | Which Indian Standard (IS) is used for analysis of accidents?  |   | IS3786   | IS5216   | IS5327   | IS5557   |  |                            |   |  |               |               |               |               |
| 49                            | What is correct sequence of hierarchy of control?  |   | Elimination, Substitution, Engineering control, Administrative & PPE   | PPE, Substitution, Engineering control, Elimination                      | Engineering Control, Substitution, Elimination, PPE                          | Substitution, PPE, Elimination, Engineering control                  |  |                            |   |  |               |               |               |               |
| 50                            | Match the Following in Column A with their description in Column B   |   |  |  |  |  |  |                            |   |  |               |               |               |               |
|                               | <table><tr><th>Column A</th><th>Column B</th></tr><tr><td>1. Identify Hazards</td><td>a. Putting designed control measures into practice</td></tr><tr><td>2. Determine Control Measures</td><td>b. Identifying potential sources of danger</td></tr><tr><td>3. Implement Controls</td><td>c. Proposing strategies to mitigate or eliminate hazards</td></tr></table>   | Column A  | Column B   | 1. Identify Hazards  | a. Putting designed control measures into practice                           | 2. Determine Control Measures  | b. Identifying potential sources of danger                   | 3. Implement Controls      | c. Proposing strategies to mitigate or eliminate hazards        |  | 1-a, 2-c, 3-c | 1-c, 2-b, 3-a | 1-b, 2-c, 3-a | 1-b, 2-a, 3-c |
|                               | Column A   | Column B  |  |  |  |  |  |                            |   |  |               |               |               |               |
|                               | 1. Identify Hazards  | a. Putting designed control measures into practice          |  |  |  |  |  |                            |   |  |               |               |               |               |
| 2. Determine Control Measures | b. Identifying potential sources of danger   |   |  |  |  |  |  |                            |   |  |               |               |               |               |
| 3. Implement Controls         | c. Proposing strategies to mitigate or eliminate hazards   |   |  |  |  |  |  |                            |   |  |               |               |               |               |
| 51                            | As per the MSIHC Rules, every occupier of MAH unit has to conduct an external safety audit at least once in a .....  |   | 6 Months   | 12 Months  | 18 Months  | 24 Months  |  |                            |   |  |               |               |               |               |
| 52                            | What control method entails making physical changes to the workplace environment or equipment in order to lessen or remove hazards?  |   | Administrative Controls  | Substitution   | Changing the Process   | Engineering Controls   |  |                            |   |  |               |               |               |               |
| 53                            | Which legal framework lays down requirements for working conditions, including ventilation, in Indian factories?   |   | ISO 14001  | OSHA Act   | Factories Act, 1948  | ASHRAE Standard 62.1   |  |                            |   |  |               |               |               |               |
| 54                            | What is the unit of measurement of illumination?   |   | Lux  | Decibel  | Ampere   | None of the above  |  |                            |   |  |               |               |               |               |
| 55                            | What is the maximum permissible noise level limit in a factory for 8 hours duration?   |   | 60dB   | 75dB   | 115dB  | 85dB   |  |                            |   |  |               |               |               |               |
| 56                            | How would you categorize lung diseases that result from inhaling workplace dust particles like coal dust?  |   | Pneumonia  | Asthma   | Pneumoconiosis   | Bronchitis   |  |                            |   |  |               |               |               |               |

|    |  |  |   |  |  |  |
|----|--|--|---|--|--|--|
| 57 | In a man-machine environment system, what is the key aspect?   |  | Isolating humans from machine interaction | Eliminating the need for human intervention                    | Optimizing collaboration between humans and machines to accomplish tasks | Reducing the complexity of machines to make them user-friendly |
| 58 | Repetitive motion injuries are caused by _____ exposure to a combination of factors.   |  | Short                                     | Prolonged  | Immediate  | Intermittent   |
| 59 | The Model Rules prescribe the maximum permissible weight to be manually lifted by an adult worker without assistance. What is this weight?   |  | 15 kilograms                              | 20 kilograms   | 55 kilograms   | 30 kilograms   |
| 60 | Under the Factories Act, 1948, what is the maximum number of hours of work allowed in a week?  |  | 48 hours                                  | 40 hours   | 36 hours   | 32 hours   |
| 61 | Electric equipment shall have danger notice with a sign of skull and bones, if voltage exceeds.....  |  | 100V                                      | 150V   | 250V   | 440V   |
| 62 | What is prescribed training period for the drivers carrying hazardous goods by road under the Rule 9 of the Central Motor Vehicle Rules, 1989.   |  | 1 Day                                     | 2 Days   | 3 Days   | 4 Days   |
| 63 | The Public Liability Insurance Act, 1991 applies to?   |  | All industries in India                   | Industries dealing with hazardous substances listed in the act | Industries operating in rural areas                                      | Only industries with foreign investment                        |
| 64 | Among the following topics, which is addressed by ILO Conventions and Recommendations?   |  | Space exploration techniques.             | Cooking recipes for international cuisines.                    | Equal pay for equal work.  | Methods of artistic expression.                                |
| 65 | As per the Factories Act 1948, the requirement of one first-aid box per every (-----) workers.   |  | 50  | 150  | 100  | 1000   |
| 66 | As per the Factories Act 1948, all lifting appliances are thoroughly examined by Competent Person at least once in a period of (.....) months.   |  | 6   | 12   | 24   | 48   |
| 67 | As per the hazardous area classification which is the highest hazardous zone?  |  | Zone 0                                    | Zone 1   | Zone 2   | Zone 1 & 2   |
| 68 | Display of emergency information panel is a mandatory on the vehicles carrying hazardous goods under (.....)   |  | Factories Act                             | Motor Transport Workers Act                                    | Air Act  | Central Motor Vehicles Act                                     |
| 69 | At what minimum depth the underground cable of voltage exceeding 33 kV shall be laid?  |  | 1.2 m                                     | 1 m  | 0.8 m  | 0.5 m  |
| 70 | What is the time period of a periodical inspection and testing of electrical installations of voltage above 650 V by the electrical inspector as per the CEA Regulations 2010?   |  | 5 Years                                   | 15 Years   | 7 Years  | 10 Years   |
| 71 | Chemical reaction in which heat is absorbed is called as;  |  | Endothermic                               | Exothermic   | Neutral  | None of the above  |
| 72 | Carbon dioxide gas extinguishes fire mainly by _____ principle   |  | cooling                                   | starvation   | smothering   | evaporation  |
| 73 | As per the National Building Code, 2016, for high rise buildings more than two years old, fire evacuation drills shall be conducted, at least once _____   |  | every 3 month                             | every 6 months   | every 12 months  | every month  |
| 74 | The risks at workplace shall be controlled and brought down to ALARP, and ALARP means  |  | Actual Lower Aim Result Possible          | Access Lower Aid Request Practice                              | As Less As Really Possible   | As Low As Reasonably Practicable                               |
| 75 | The huge amount of information on accident statistics, health data, environmental aspects, trainings, now can be easily stored, analysed, transmitted and used for presenting an accurate MIS to management, which will show the results of investments in OH&S. Here MIS means:   |  | Market Involvement Status                 | Management Information System                                  | Management Involvement Status  | Marketing Information System                                   |
| 76 | Dry chemical powder having monoammonium phosphate as the main chemical constituent can be used for extinguishing Class _____ fires   |  | B and C only                              | A and C only   | A, B and C   | D Only   |
| 77 | What is the full form of BLEVE?  |  | Boiler Low Expanding Vapour Explosion     | Boiler Less Exploding Vital Equipment                          | Boiling Level Equivalent Vigorous Explosion                              | Boiling Liquid Expanding Vapour Explosion                      |
| 78 | _____ is the lowest temperature at which the application of an ignition source will cause a flame to flash across the surface of the liquid  |  | Boiling point                             | Vapour pressure  | Flash point  | Evaporation point  |
| 79 | As per Heinrich, the occurrence of a preventable injury is the natural culmination of a series of events, which invariably occur in a fixed and logical manner. List out in chronological order the five factors. 1. Fault of person, 2. Social environment/Ancestry, 3. Unsafe Act/mechanical or physical hazard 4. Injury, 5. Accident |  | 2, 1, 3, 5, 4                             | 1, 2, 3, 4, 5  | 2, 1, 5, 3, 4  | 2, 1, 4, 3, 5  |
| 80 | Which Indian standard is referred for conducting safety audit?   |  | IS3786                                    | IS14489  | IS15793  | IS45001  |

## Environment

| S. No. | Question   | Choice 1  | Choice 2  | Choice 3  | Choice 4   |
|--------|--|---|---|---|--|
| 1      | What is the primary objective of the State Pollution Control Board (SPCB) as per the Water (Prevention and Control of Pollution) Act, 1974?  | Finance the water conservation projects   | Groundwater extraction  | Implement water conservation  | Control water pollution  |
| 2      | Which of the following activities would require a 'consent to operate' from the State Pollution Control Board (SPCB) under the Air Act, 1981?  | Setting up a small-scale industry   | Household cooking using LPG   | Public transportation using electric vehicles   | Planting trees in urban areas  |
| 3      | Which of the given options represents the purpose of the Public Liability Insurance Act?   | To regulate the use of public spaces for commercial activities  | To regulate the import and export of hazardous chemicals  | To promote public awareness about environmental protection  | To ensure liability coverage for damage caused by pollution  |
| 4      | Mark Industries, a major manufacturing company, operates in a state where strict regulations under the Water and Air Acts. Which of the following roles is likely to be carried out by the State Pollution Control Board (SPCB)? | Monitoring local transportation routes  | Regulating the emission of pollutants from the industries   | Ensuring proper waste disposal at households  | Managing public parks and recreational areas   |
| 5      | A major industrial plant in the state is suspected of releasing toxic pollutants into the air. What would likely be the course of action of state pollution control board?   | Focus solely on promoting tourism in the region   | Ignore the situation as it's beyond their scope   | Wait for public complaints before taking any action   | Conduct an investigation and take necessary regulatory actions   |
| 6      | Which waste management technique can lead to soil pollution?   | Landfilling   | Composting  | Recycling   | Reusing  |
| 7      | The local environmental authorities have mandated the implementation of a Common Effluent Treatment Plant (CETP) in the industrial area. How will CETP contribute to environmental protection?                                   | By allowing industries to bypass wastewater treatment regulations   | By concentrating all industrial wastewater at a single point of discharge   | By releasing treated effluents without any monitoring   | By increasing pollution levels in the water body   |
| 8      | Which of the following symbol is found in label of bio hazardous waste materials?  |    |                                    |                                  |                                       |
| 9      | Which of the following is the correct group of greenhouse gases?   | Oxygen (O <sub>2</sub> ), Nitrogen (N <sub>2</sub> ), Carbon Dioxide (CO <sub>2</sub> ), Sulphur Dioxide (SO <sub>2</sub> ) | Carbon Dioxide (CO <sub>2</sub> ), Methane (CH <sub>4</sub> ), Oxygen (O <sub>2</sub> ), Nitrogen (N <sub>2</sub> ) | Hydrogen (H <sub>2</sub> ), Nitrous Oxide (N <sub>2</sub> O), Water Vapour (H <sub>2</sub> O), Carbon Monoxide (CO) | Carbon Dioxide (CO <sub>2</sub> ), Methane (CH <sub>4</sub> ), Nitrous Oxide (N <sub>2</sub> O), Ozone (O <sub>3</sub> ) |
| 10     | Which type of light is considered to be the most energy efficient?   | Halogen bulbs   | LED bulbs   | CFL bulbs   | Incandescent bulbs   |
| 11     | Which of the following are key elements of the energy management system ISO 50001?   | Energy policy, energy planning, and energy performance evaluation   | Quality management, safety management, and financial management   | Energy efficiency, waste reduction, and resource conservation   | Employee training, product marketing, and customer relations   |
| 12     | Which of the following is the essence of Sustainable Operations Management?  | Short-term profit optimization  | Cost reduction  | Quick fixes for environmental challenges  | Integration of environmental, social, and economic factors   |
| 13     | The full form of MINAS in respect of effluent standards achievable by industry is  | Minimum National Standards  | Maximum National Standards  | Minimal National Standards  | All of these   |
| 14     | Zero Liquid Discharge (ZLD) refers to  | No process effluent is generated inside factory   | All process effluent generated is used within factory without any treatment   | All process effluent generated is used within factory after required treatment                                      | None of these  |
| 15     | In Air Quality Index (AQI) of the Central Pollution Control Board, RED colour signifies which category?  | Very Poor   | Poor  | Moderate  | Good   |
| 16     | Permissible concentration of SO <sub>2</sub> in ambient air for industrial areas as per National Ambient Air Quality Standards based on 24 hourly monitored values is  | 60 microgram per cubic meter  | 80 microgram per cubic meter  | 120 microgram per cubic meter   | None of these  |
| 17     | CRZ stands for   | Coastal Registration Zone   | Coastal Regulation Zone   | Coastal Red Zone  | None of these  |
| 18     | United Nations came up with how many sustainable development goals?  | 15  | 16  | 17  | 20   |
| 19     | Name the card that must be carried by the people involved in transportation of hazardous wastes.   | TREM Cards  | OSHA cards  | MSDS Cards  | None of these  |
| 20     | Ambient air quality standard in respect of noise for industrial area during night time is (____) dB(A) Leq   | 70  | 55  | 45  | 40   |

## Answer Key

### General Aptitude

| S.No           | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | 10       |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Correct answer | Choice 4 | Choice 1 | Choice 3 | Choice 2 | Choice 4 | Choice 3 | Choice 4 | Choice 4 | Choice 2 | Choice 4 |

| S.No           | 11       | 12       | 13       | 14       | 15       | 16       | 17       | 18       | 19       | 20       |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Correct answer | Choice 1 | Choice 3 | Choice 4 | Choice 1 | Choice 2 | Choice 3 | Choice 1 | Choice 3 | Choice 2 | Choice 3 |

### Safety

| S.No           | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------|---|---|---|---|---|---|---|---|---|----|
| Correct option | 3 | 2 | 2 | 3 | 1 | 3 | 3 | 2 | 3 | 4  |

| S.No           | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Correct option | 2  | 2  | 4  | 1  | 1  | 1  | 2  | 2  | 3  | 4  |



| S.No           | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Correct option | 1  | 2  | 4  | 2  | 2  | 3  | 1  | 2  | 2  | 3  |

| S.No           | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Correct option | 2  | 4  | 2  | 2  | 1  | 3  | 2  | 2  | 1  | 4  |

| S.No           | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Correct option | 4  | 3  | 1  | 4  | 1  | 3  | 2  | 1  | 1  | 3  |

| S.No           | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Correct option | 2  | 4  | 3  | 1  | 4  | 3  | 3  | 2  | 3  | 1  |

| S.No           | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Correct option | 3  | 3  | 2  | 3  | 2  | 2  | 1  | 4  | 1  | 1  |

| S.No           | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
|----------------|----|----|----|----|----|----|----|----|----|----|
| Correct option | 1  | 3  | 2  | 4  | 2  | 3  | 4  | 3  | 1  | 2  |

## Environment

| S.No           | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | 10       |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Correct answer | Choice 4 | Choice 1 | Choice 4 | Choice 2 | Choice 4 | Choice 1 | Choice 2 | Choice 2 | Choice 4 | Choice 2 |

| S.No           | 11       | 12       | 13       | 14       | 15       | 16       | 17       | 18       | 19       | 20       |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Correct answer | Choice 1 | Choice 4 | Choice 3 | Choice 3 | Choice 1 | Choice 2 | Choice 2 | Choice 3 | Choice 1 | Choice 1 |

## NSAT PREVIOUS YEAR QUESTION PAPER

### Section 1 - General

1. Our sir teaches Mathematics ..... English.
  - a. Across
  - b. Besides
  - c. Beside
  - d. Both
2. Mark the option containing the word that has been used incorrectly in the sentence given below.

I have an elder brother, / who is pursue his diploma / from Kelley School of Business.

  - a. I have an elder brother
  - b. who is pursue his diploma
  - c. from Kelley School of Business
  - d. No Error
3. Mark the option which best expresses the sentence in Passive voice.

Montana offered her a seat.

  - a. A seat was offered to her by Montana.
  - b. Montana offer her seat.
  - c. Seat was offered to her.
  - d. Her seat offered by Montana
4. Mark the option which best expresses the given sentence in Indirect speech.

My boss said to me, "Complete the work by fortnight, or else you are out."

  - a. My boss told me he'd completed the work for the fortnight, or else I was out.
  - b. My boss told me to complete the work by the fortnight, or else I'd be out.
  - c. My boss told me to complete the work by the fortnight, or else you are out.
  - d. None of the mentioned options
5. Mark the option which best expresses the given sentence in Indirect speech.

"Where do my parents usually go on a holiday?", asked Robert.

  - a. Robert asked where my parents usually goes on a holiday.
  - b. Robert asked my parents where do they usually go on a holiday.
  - c. Robert asked where does my parents usually go on a holiday.
  - d. None of the mentioned options
6. Which MS office program can be used to carry out the accidents trend analysis?
  - a. Power Point
  - b. Word
  - c. Excel
  - d. Access

7. Select the correct example for a connectionless network, a type of computer communications network that groups and sends data in small packets.
- Internet
  - Protocol
  - Circuit
  - Cell
8. Observe the given options and identify in which unit internet speed is measured.
- Kbps
  - mhz
  - Megabyte
  - Gb
9. A web-based tool that enables users to locate information on the World Wide Web is called a search engine.  
Identify which of the following are search engines.
- Google
  - MSC
  - Yahoo
  - Orkut
  - Face Search
- B,C
  - A,C
  - C,D
  - A,B
10. The Internet Protocol is a set of rules for routing and addressing packets of data so that they can travel across networks and arrive at the correct destination.  
Which of the following options is NOT an internet protocol?
- FTP
  - RSA
  - IP
  - HTTP
11. Identify the process by which standards and traditions of behaviour, as well as beliefs and other views, are passed down and propagated.
- Individualism
  - Leadership
  - Tactics
  - Socialization

12. Authoritarian leaders make decisions without seeking input from anyone who reports to them, or none at all. Usually the style of authoritarian leaders' rule is referred to as \_\_\_\_.
- Autocratic Style
  - Participative Style
  - Laissez-faire Style
  - Leadership Style
13. Identify the leadership style where everyone is given a chance to speak their minds at meetings and silent team members are specifically asked for their opinions to make sure all perspectives are heard.
- Autocratic Style
  - Participative Style
  - Laissez-faire Style
  - Leadership Style
14. This theory of leadership focuses on the personality of a leader and suggests that certain inborn qualities make a leader. Identify the theory.
- Trait Theory
  - Personality Theory
  - Group Theory
  - Inspiration Theory
15. For every student, teacher leaders are the perfect example to start learning about leadership skill.  
Identify qualities that a teacher leader should demonstrate for student learning:
- Collaboration
  - Empowerment
  - Relationship
  - Authoritative
  - Ignorant
- A, B, C
  - B, C, D
  - C, D, E
  - A, B, E
16. If the code assigned to 'ROSE' is 'ILHV', which of the following will be the correct code for the word 'TULIP'?
- HGQSL
  - GFPRK
  - FEOQJ
  - KROEF

17. In a Family of 8 members (M, N, O, P, Q, R, S, T), there are 2 married couples and a widow. M is the Engineer and is married to a doctor. O is an architect and the wife of P. Q, a student who is the only child of O. S, the daughter of T, and the sister of R, who is the manager's niece. N, a teacher, is the mother of only M and P.  
Who is the manager?
- T
  - S
  - P
  - M
18. Find the missing term in given series:  
167, 173, \_\_\_\_, 185, 191
- 177
  - 175
  - 179
  - 180
19. Find the odd one out:  
Introvert, Loner, Solitary, Extrovert
- Introvert
  - Loner
  - Solitary
  - Extrovert
20. If in a certain code the word 'ZEBRA' is written as '2763182', then what would be the code for word 'LION'?
- 13101615
  - 12915140
  - 1181413
  - 1491514

## Section 2 - OHS

1. As per IS- 9457, there are four safety colours i.e. Red, Yellow, Green and \_\_\_\_\_ , to which a safety meaning is attributed. Which is the missing colour?
  - a. Brown
  - b. Blue
  - c. Black
  - d. Purple
2. A company uses behavior-based safety to inform the management and employees about workplace safety. This would be done via \_\_\_\_\_.
  - a. Process Management
  - b. Process Optimization
  - c. Safety Operations
  - d. Safety Observations
3. Workers in a company are being provided safety training. Whom would this training benefit?
  - a. Employees
  - b. Employers
  - c. Government
  - d. Both A and B
4. Which of the following assemblies is used to regulate the compressed air in a breathing apparatus?
  - a. Face piece
  - b. Cylinder assembly
  - c. Regulator assembly
  - d. Back piece assembly
5. A firefighter is trying to control a fire accident. He is using a CO<sub>2</sub>-type extinguisher for the task. After the job, how will he find the discharge horn of the extinguisher?
  - a. Warm
  - b. Extremely Cold
  - c. Cold
  - d. Extremely Hot
6. Which of the following is NOT related to mechanical hazard under occupational health hazards?
  - a. No safety device
  - b. No fencing
  - c. Wrong layout of machinery
  - d. Unguarded machinery

7. Ram is assigned to work at a particular height and due to this he has to use a ladder to complete the job. In this situation, how many point(s) of contact he should maintain with the ladder?
- At least three
  - Four
  - One
  - At least two
8. A ladder should be turned so that its foundation is 1 foot far from the wall. What should be the ladder's height for every feet away from the wall?
- 4
  - 2
  - 8
  - 10
9. Among the following options, on which type of fire, a Class B type fire extinguisher should NOT be used?
- Paper
  - Paint
  - Grease
  - Oil
10. Which of the following correctly represents the properties of safety shoes necessary for maintaining the safety of feet?
- The shoes should be close-toed, non-slip, and made of thick material.
  - The shoes should be made from rubber.
  - The shoes should be resistant to dirt.
  - The shoes should have spikes for better grip and quick movement.
11. In any industry, it is necessary to have a safety manager to protect the company and workers from common workplace hazards.  
Which of the following are the key responsibilities of a safety manager?
- Preparation and growth of the workers in the safety practices
  - Judgment of requirement of safety procedures
  - Modifying the work process to make it more inclined toward safety
  - Regular testing and monitoring of the working environment
- 1, 2 and 3
  - 1, 2, 3 and 4
  - 1, 2 and 4
  - 1 and 2



12. "To achieve continuous improvement in safety efficiency, choose the correct option, which leads to the use of methods of applied behaviour analysis.
- Strategic behavioral analysis (SBA)
  - Behavior-based safety (BBS)
  - Providing feedback
  - Observing to gather data on behaviors
13. Where \_\_\_\_\_ or more workers are employed in a factory, there shall be a Safety Committee in the factory.
- 100
  - 150
  - 200
  - 250
14. Who performs the joint site inspection before issuing the work permit?
- Workers and permit receiver
  - Workers and permit issuer
  - Area manager along with workers
  - Permit issuer and receiver
15. Indian Standard for Accident Prevention tags is \_\_\_\_\_.
- IS : 3786
  - IS : 8095
  - IS : 8519
  - None of the above
16. Which of the following type of detector is NOT used as an actuator of fire protection system?
- Line-type photoelectric smoke detectors
  - Rate-of-rise heat detectors
  - Flame detectors
  - Nitrogen sensors
17. According to Heinrich's theory, what percent of accidents occur at the workplace due to unsafe behaviour?
- 85%-90%
  - 15%-20%
  - 25%-35%
  - 50%-60%
18. What are the hazards associated with machine operation?
- Unguarded machine parts
  - Vibration

- c. Flying objects during chipping & cutting works  
d. All of the above
19. What is the purpose of machine guarding?
- To provide the physical barrier
  - To prevent machines to breakdown
  - To prevent machines to damage mechanically
  - All of the above
20. The purpose of a lock-out/tag-out (LOTO) procedure is to \_\_\_\_.
- Improve productivity on the job
  - Secure harmful energy sources to prevent injury
  - Slow down work so technicians are less stressed
  - Identify personal items to avoid theft
21. Arc blast is caused by \_\_\_\_.
- poor contact within electrical wire splices
  - radio frequency omissions from high-power transmitters
  - ionization of gases near high-voltage electrical conductors
  - discharge of high electrical current through open air
22. The minimum height of toe board should be \_\_\_\_.
- 1 cm or more
  - 5 cm or more
  - 10 cm or more
  - None of the above
23. A job safety analysis is required to be followed in a company for better and safer working conditions.  
Which of the following has to be checked?
- Work Area
  - Men
  - Tools
- I and II
  - I and III
  - II and III
  - I, II and III
24. What type of hazard in the workplace represent noise greater than 85 dB?
- Biological hazard
  - Chemical hazard
  - Physical hazard

- d. Ergonomic hazard
25. Which of the following is defined as a hazardous area created by two or more mechanical parts rotating in opposite direction within the same plane and in close interaction?
- Pinch point
  - Nip points or bites
  - Point of operation
  - Power transmission
26. Which of the following device can be used as an appliance to estimate earthquakes?
- Oscillograph
  - Seismograph
  - Bar graph
  - Telegraph
27. Under the Factory Act of 1948, in which section it is described regarding the safeguards of machinery?
- Section 21 to 40
  - Section 1 to 20
  - Section 41 to 60
  - Section 61 to 80
28. Which of the following option correctly describes the term "PASS"?
- Pick up, Aim, Squeeze, Squirt
  - Pull, Aim, Squeeze, Sweep
  - Push, Alarm, Swirl, Sweep
  - Pull, Aim, Swirl, Swat
29. Which among the following can affect the brain growth of children?
- Nitrogen
  - Zinc
  - Boron
  - Lead
30. What is the test load of the lifting gear of having 25 tonnes of SWL?
- 50 tonnes
  - 25 tonnes
  - 37 tonnes
  - 75 tonnes
31. How many notifiable diseases are listed in the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998?
- 29

- b. 30
- c. 15
- d. 31

32. Among the following, which are the hazardous processes specified under the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998?

- a) Roof Work
- b) Demolition
- c) Work in confined Spaces
- d) Steel erection

- a. Only a and c
- b. Only c
- c. Only a and b
- d. All of the above

33. John is a construction worker working at a height. He has been asked to fix the top of a tall building. For John's safety, what must be done?

- a. Several People standing under for protection
- b. Safety nets
- c. Strong machinery
- d. Both B and C

34. Due to the Bhopal gas tragedy, among the following given chemicals, identify the one that is liable for the lung disease.

- a. Methylcyanate
- b. Methylisocyanate
- c. Methyl
- d. Methylisocyanide

35. Duke is working in a foundry within a company and he is having a lung infection due to that. Among the given options, which substance's presence in the foundry may cause this infection?

- a. Carbon
- b. Dust
- c. Methane
- d. Slags

36. Which type of fire cannot be addressed with water?

- a. Class A
- b. Class D
- c. Class B

- d. Class C
37. For carrying out a Process Hazard Analysis such as HAZOP, the team will need to have all of the following safety information, except:
- A block flow diagram or simplified process flow diagram
  - Plant layout
  - Area electrical classification
  - Applicable design codes & standards
38. The catastrophic failure of a hydrocarbon storage tank due to intense heating from an external fire is commonly known as:
- UCVCE
  - CE
  - Cascading effect
  - BLEVE
39. A hazardous chemical can be identified by which of the following number?
- ID number
  - UN number
  - NFPA number
  - Hazard Index number
40. In risk estimation, a FN-Curve depicts which of the following risk?
- Individual risk
  - Process risk
  - Societal risk
  - None of the above
41. Emergency Information Panel contains:
- Class Label
  - UN number
  - HAZCHEM code
  - All of the above
42. The chemical involved in Flixborough disaster was \_\_\_\_.
- Methyl isocynate (MIC)
  - Tetrachloro Dibenzatioxin (TZ DD)
  - Cyclohexane
  - None of the above
43. Transporting hazardous material by road require proper identification as per which statutes?
- The Motor Vehicles Act, 1988
  - The Environment (Protection) Act, 1986,

- c. The Factories Act, 1948
  - d. The Dangerous Machines (Regulation) Act, 1983
44. Among the following gases which one is flammable?
- a. Carbon Dioxide
  - b. Carbon Monoxide
  - c. Chlorine
  - d. Nitrogen
45. Among the following words, which is not a guide word of HAZOP study?
- a. NO
  - b. LESS
  - c. GOOD
  - d. MORE
46. Which colour is being used in a hazard class label for explosives substances?
- a. Red
  - b. Green
  - c. White
  - d. Orange
47. IS 2825, the code for unfired pressure vessels, does NOT include which of the following?
- 1. Pressure exceeding 200 kgf/cm<sup>2</sup>.
  - 2. When the ratio of outside to inside diameter of the shell is more than 1.5
  - 3. Vessels ID not more than 150 mm.
- a. 1 only
  - b. 1 and 2 only
  - c. 2 and 3 only
  - d. All Three
48. In a HAZCHEM code, e.g. LPG HAZCHEM code is 2WE, what does the number 2 indicates?
- a. Extinguishing medium
  - b. Hazard level
  - c. Serial No.
  - d. Molecular weight
49. What is the word used to describe a chemical reaction which absorbs heat?
- a. Exothermic reaction
  - b. Continuous reaction
  - c. Endothermic Reaction
  - d. None of the above

50. As per IS: 3786, scheduled charges in days of earning capacity lost due to amputation through shoulder joint upper limb (either arms) is \_\_\_\_.
- 4200 days
  - 3600 days
  - 6000 days
  - 5400 days
51. Safety performance is measured usually through \_\_\_\_.
- Leading indicators
  - Lagging indicators
  - Both a & b
  - None of the above
52. In case of accident, if the worker does NOT report to the duty within \_\_\_\_, it is known as Reportable accidents.
- 48 hrs
  - 24 hrs
  - 36 hrs
  - 54 hrs
53. Why should near miss be reported?
- To ensure complete recovery
  - To meet legal requirement
  - To prevent occurrence of a more serious incident
  - To test the first aider
54. Frequency Rate = ? X 1000000 / Total man-hours worked as per Indian Standard 3786. Find "?".
- No. of persons employed
  - No. of days of absent from work
  - No. of injury(s)
  - No. of man-day(s) lost
55. In a particular factory, the number of injuries occurred per year are 6, the number of workers working in the factory are 600, and the average number of hours worked by a worker per year is 1000. Determine the frequency rate of injury in the factory.
- Frequency rate = 6
  - Frequency rate = 8
  - Frequency rate = 10
  - Frequency rate = 5
56. Suppose you are in the risk assessment control team in your plant, and you are given the task of identifying why the problem occurred in the first place.

Which root cause tool is best suitable for finding potential causes?"

- a. Fault tree analysis
- b. Pareto chart
- c. Scatter plot diagram
- d. Fishbone diagram

57. As per the section 36-A of the Factories Act, 1948, \_\_\_\_\_ volts of electric light is permitted for working in a confined space.

- a. 60
- b. 220
- c. 240
- d. 24

58. In an industry, several machines are operating, the temperature at this location is very high, and the surroundings are hot. Which of the following would be true here?

- a. More ventilation leading to more stress
- b. More ventilation leading to health issues
- c. Low ventilation leading to less stress
- d. Low ventilation leading to health issues

59. Noise hazard is required to be avoided in an industry. The exposure of sound here is 85 dB (A). For how many hours at maximum can this sound be heard before causing issues?

- a. 14
- b. 8
- c. 5
- d. 3

60. A scientist is looking for a parameter that can be expressed by using candela. Among all the options, which one parameter could be suitable for him?

- a. Frequency
- b. Luminous flux
- c. Luminous intensity
- d. Wavelength

61. Elbert is looking for an earplug that possesses a fixing agent and silicon rubber. From the given options, which one could be used by him?

- a. Prefabricated earplugs
- b. Semi insert protectors
- c. Canal caps
- d. Custom moulded earplugs

62. What is the short term exposure time limit for certain chemicals/substances specified in the Section 41-F of the Factories Act, 1948?



- a. 60 minutes
- b. 15 minutes
- c. 10 minutes
- d. 8 hours

63. In any factory, the air movement should be of at least \_\_\_\_\_ meters per minute.

- a. 60
- b. 15
- c. 30
- d. 45

64. The general illumination in a factory where people are regularly employed shall not be less than \_\_\_\_\_ lux measures in the horizontal plane at a level of 90 centimetres above the floor:

- a. 65
- b. 85
- c. 105
- d. 45

65. Which one of the given options can be implemented in a workplace to prevent hearing loss?

- a. Always wear ear protection everywhere you go
- b. Monitor noise levels through engineering and administrative controls to minimize over exposure
- c. No need to wear PPEs
- d. Monitor your hearing loss over time with a routine hearing test

66. The safety of worker's life and person's property is to be maintained from the dangers of steam boiler explosion. In which year an act was passed for this? "

- a. 1923
- b. 1935
- c. 1905
- d. 1915

67. As per the Petroleum act passed in 1934, which of the following is checked concerning petroleum?

- I) Refining
- II) Blending
- III) Import

- a. I and II
- b. I and III
- c. II and III
- d. I, II and III

68. The government discovered the possession and importation of explosive goods by an organisation. According to which act does the government have the authority to prohibit the manufacture of such substances?
- The Explosives Act, 1984
  - Hazardous Explosives Act, 1983
  - Hazardous Explosives Act, 1883
  - The Explosives Act, 1884
69. Among the following, what should be the exceeding capacity of the container for a class C petroleum so that its type can be approved by the Chief controller of Explosives?
- 5 liters
  - 1 liter
  - 3 liters
  - 2 liters
70. As per Rule 74 of the Petroleum Rules 2002, vehicles carrying petroleum by road, shall not be parked at a place within \_\_\_\_\_ meters of any source of fire.
- 11
  - 8
  - 9
  - 10
71. As per model factory rules First-aid box is to be provided for every \_\_\_\_\_ workers in a factory.
- 50
  - 160
  - 135
  - 125
72. As per the classification in the Petroleum Rules, 2002, the Petroleum Class "B" means \_\_\_\_.
- Petroleum having a flash point of  $23^{\circ}\text{C}$  and above but below  $65^{\circ}\text{C}$
  - Petroleum having a flash point of  $65^{\circ}\text{C}$  and above but below  $93^{\circ}\text{C}$
  - Petroleum having a flash point below  $23^{\circ}\text{C}$
  - Petroleum having a flash point above  $93^{\circ}\text{C}$
73. Under the Provisions of which Act, the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 have been notified?
- The Factories Act, 1948
  - The Explosive Substances Act, 1908
  - The Environmental (Protection) Act, 1986
  - None of the above

74. Whether "National Policy on Safety, Health & Environment at workplace" is available in India?
- No
  - Not sure
  - Yes
  - None of the above
75. Under which section of the Factories Act, 1948 the notifiable diseases are listed?
- 89
  - 95
  - 106
  - 42
76. The maximum travel distance for fire exit specified in the model Factories Rule is \_\_\_\_.
- 50 meters
  - 40 meters
  - 30 meters
  - 20 meters
77. The Health & Safety Policy to be signed by \_\_\_\_\_ as per the Factory Model Rules under the Factories Act, 1948.
- Occupier
  - Medical Officer
  - Safety Officer
  - Fire Officer
78. Every wire rope of lifting appliances used at construction work is required to be inspected by a responsible person at least \_\_\_\_\_.
- every 12 months
  - every 36 months
  - every 3 months
  - every 60 months
79. What is the frequency of testing of lifting appliances after erecting at construction site as per BOCW Rules, 1998?
- every 3 years
  - every 5 years
  - every 2 years
  - every 1 year
80. How many industries are categorised as hazardous processes under the section 2 (cb) of the Factories Act, 1948?
- 26



- b. 30
- c. 40
- d. 29

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### Section 3 - Environment

1. As per Biomedical Waste Management Rules 2016, what is the colour of the baggage in which sharp types of medical waste must be packed?
  - a. Yellow
  - b. Red
  - c. White translucent
  - d. Blue
2. The diesel generators manufactured after 1st Jan 2005 need to adhere to the noise pollution standards. What is the maximum noise permitted for the DGs?
  - a. 50 dB for a DG capacity of above 1000 KVA
  - b. 75 dB for a DG capacity of upto 1000 KVA
  - c. 75 dB for a DG capacity of above 1000 KVA
  - d. 50 dB for a DG capacity of upto 1000 KVA
3. If the stack should be 3.5 m above the building height, what is the capacity of the Diesel Generator?
  - a. 250 to 300 KVA
  - b. 300 to 350 KVA
  - c. 100 to 150 KVA
  - d. 200 to 250 KVA
4. What is the standard for the TDS for the discharge of effluents from Tanneries as per the Central Pollution Control Board?
  - a. 2100 mg/ L
  - b. 2200 mg/ L
  - c. 2000 mg/ L
  - d. 1900 mg/ L
5. Name the card that must be carried by the people involved in transportation of hazardous wastes.
  - a. TREM Cards
  - b. OSHA cards
  - c. MSDS Cards
  - d. TRAM Cards"
6. As per pollution control index, CPCB have categorized industrial sectors in 4 categories. Among the following, which is not a part of the categories?
  - a. White
  - b. Green
  - c. Red
  - d. Brown

7. As per the National Ambient Air Quality Standards, the concentration of PM<sub>10</sub> in ambient air for Industrial area for 24 hours in microgram/m<sup>3</sup> is \_\_\_\_.
- 60
  - 120
  - 100
  - 30
8. In India, the limit of Ambient Air Quality Standards with respect to noise [dB(A) Leq] for residential areas is \_\_\_\_.
- 90
  - 55
  - 75
  - 85
9. Which of the following wastes can be recycled?
1. Glass bottles
  2. Candy wrappers
  3. Paper
  4. Ceramic items
- 1, 2 and 3
  - 1 and 2
  - 3 and 4
  - 1 and 3
10. VER is a type of carbon credit that is represented by which of the given options?
- Voluntary Emission Reduction certified by third party
  - Valued Emission Reduction certified by third party
  - Valued Emission Reduction
  - Voluntary Emission Reduction
11. What are the real-time air and water quality monitoring systems?
- CEMS - Air, CEQMS – Water
  - CAAQMS - Air, CEMS – Water
  - CEMS - Air, CAAQMS – Water
  - CEQMS - Air, CEMS - Water
12. Observe all the options and identify the option which is NOT a result of burning fossil fuels.
- Increased ethane levels
  - Increased greenhouse gases
  - Emission of carbon dioxide
  - Emission of hydrogen gas

- a. b and d
  - b. a and d
  - c. a and c
  - d. a, c and d
13. Which option is incorrect regarding greenhouse impact?
- a. Life on earth is possible due to the greenhouse effect.
  - b. More the emission of greenhouse gases, more the temperature of the earth's atmosphere.
  - c. Increased emission of greenhouse gases is a natural process.
  - d. The greenhouse effect is a natural process that maintains the earth's temperature.
14. Which is NOT correct for the comparative contribution of different greenhouse gases to complete global warming?
- a. Methane – 20%
  - b. CFCs – 14%
  - c. Carbon dioxide – 60%
  - d.  $N_2O$  – 12%
15. Among all the greenhouse gases, which one has the highest atmospheric lifetime?
- a. Methane
  - b. Nitrous oxide
  - c. CFC
  - d. Carbon tetrafluoride
16. Observe the given options and identify the one which is correct regarding the half-life period of methane.
- a. 10 years
  - b. 50-55 years
  - c. 28-36 years
  - d. 100 years
17. Among all the options, which option describes Carbon Sequestration?
- a. Storage of  $CO_2$  by depositing it in the reservoir
  - b. Removal of  $CO_2$  from the atmosphere & storing it by depositing it in the reservoir
  - c. Storage of carbon dioxide by sedimentation
  - d. Removal of  $CO_2$  from the atmosphere
18. Observe and identify the one which is not a sink for carbon.
- a. Living beings
  - b. Ocean
  - c. Soil

d. Forest

19. Identify which among the following is NOT a renewable source of energy.

- a. Hydro-power
- b. Biomass energy
- c. Solar energy
- d. Geothermal energy

20. Identify the one which is a drawback of most renewable energy sources.

- a. Unreliable supply
- b. High waste disposal cost
- c. Highly pollution inducing
- d. High running cost

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## Answer Key

### Section 1

| Q No   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------|---|---|---|---|---|---|---|---|---|----|
| Answer | b | b | a | b | d | c | a | a | b | b  |

| Q No   | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|--------|----|----|----|----|----|----|----|----|----|----|
| Answer | d  | a  | b  | a  | a  | b  | c  | c  | d  | a  |

### Section 2

| Q No   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------|---|---|---|---|---|---|---|---|---|----|
| Answer | b | d | d | c | b | c | a | a | a | a  |

| Q No   | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|--------|----|----|----|----|----|----|----|----|----|----|
| Answer | c  | b  | d  | d  | b  | d  | a  | d  | a  | b  |

| Q No   | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|--------|----|----|----|----|----|----|----|----|----|----|
| Answer | d  | c  | b  | c  | b  | b  | a  | b  | d  | a  |

| Q No   | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|--------|----|----|----|----|----|----|----|----|----|----|
| Answer | c  | d  | b  | b  | b  | b  | b  | d  | b  | c  |

| Q No   | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|--------|----|----|----|----|----|----|----|----|----|----|
| Answer | d  | c  | a  | b  | c  | d  | d  | a  | c  | d  |

| Q No   | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|--------|----|----|----|----|----|----|----|----|----|----|
| Answer | c  | a  | c  | c  | c  | d  | d  | d  | b  | c  |

| Q No   | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
|--------|----|----|----|----|----|----|----|----|----|----|
| Answer | d  | b  | c  | a  | b  | a  | d  | d  | a  | c  |

|        |    |    |    |    |    |    |    |    |    |    |
|--------|----|----|----|----|----|----|----|----|----|----|
| Q No   | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| Answer | a  | a  | c  | c  | a  | c  | a  | c  | b  | d  |

### Section 3

|        |   |   |   |   |   |   |   |   |   |    |
|--------|---|---|---|---|---|---|---|---|---|----|
| Q No   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Answer | c | b | d | a | a | d | c | b | d | c  |

|        |    |    |    |    |    |    |    |    |    |    |
|--------|----|----|----|----|----|----|----|----|----|----|
| Q No   | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Answer | a  | b  | c  | d  | d  | c  | b  | a  | b  | a  |

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