

MODEL CURRICULUM



Qualification Name: CRANE INSPECTOR (SAFETY)

Qualification Code: SSD/Q0304

Qualification Version: 1.0

NSQF Level: 5.5

Model Curriculum Version: 1.0

SAFETY SKILL DEVELOPMENT FOUNDATION

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Training Parameters

Sectors	Hydrocarbon, Iron & steel, Mining, Power, Automotive, Construction, Chemicals & Petrochemicals, and others.
Sub-Sector	-
Occupation	Lifting & Rigging Engineering & Management
Country	India
Qualification name	Crane Inspector
Qualification Code	SSD/Q0304
NSQF Level	5.5
Aligned to NCO/ISCO/ISIC Code	NCO-2015/ 8343.1600
Minimum Educational Qualification and Experience	Completed 4-year UG OR Completed 3-year diploma after 10th with 3-years of experience. OR Completed 2-year NTC (after 10th) with 4.5-year experience. OR Previous relevant qualification of NSQF level 5 with 1.5-year experience OR Previous relevant qualification of NSQF level 4.5 with 3-year experience
Pre-Requisite License or Training	Nil
Minimum Job Entry Age	18 years



Last Reviewed On	22-10-2024
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Version	1.0
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Model Curriculum Creation Date	22-10-2024
Model Curriculum Valid Up to Date	22-10-2027
Model Curriculum Version	1.0
Minimum Duration of the Course	600 Hours
Maximum Duration of the Course	600 Hours



Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

After completing the program, the participant will be able to:-

- Ensure compliance with relevant national and international standards, such as OSHA (Occupational Safety and Health Administration), ASME (American Society of Mechanical Engineers), and ISO standards during crane operations and inspections.
- Identify and understand the function of crane components, such as booms, jibs, hooks, cables, and pulleys.
- Conduct regular inspections (pre-use, periodic, and thorough examinations) of cranes, focusing on mechanical, structural, and electrical components.
- Understand load charts and calculations for safe crane operation, considering factors like load weight, load radius, and ground conditions.
- Acquire skills to inspect crane maintenance records and ensure that all necessary maintenance tasks are performed correctly and on schedule
- Identify hazards associated with crane operations, such as electrical hazards, proximity to structures, and weather conditions
- Perform inspections, identify defects, and practice safe crane operation under controlled environments.
- Understand the differences between various types of cranes (e.g., mobile cranes, tower cranes, overhead cranes) and their specific safety requirements.
- Learn how to evaluate load handling practices, ensuring that loads are within the crane's capacity and correctly rigged to avoid imbalance, overloading, or tipping.
- Master emergency protocols related to crane operation failures, collapses, or accidents, including evacuation procedures, first-aid, and emergency response communication.
- Learn how to assess and approve lifting plans to ensure that all elements of a lift, including crane selection, load characteristics, and environmental conditions, are considered from a safety perspective.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
SSD/N0327 v 1.0: Introduction to Lifting and Rigging Operations.	30:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
Module 1: Introduction to Training Program, Overview, assessments, role of Crane Inspector.	04:00 Hours	00:00 Hours	00:00 Hours	00:00 Hours	04:00 Hours
Module 2: Foundational understanding of lifting and rigging operations along with the roles and responsibilities of personnel involved.	26:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	56:00 Hours
SSD/N0328 v 1.0: Crane Operational Mechanisms and Systems	30:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
Module 3: Operational mechanisms and systems of cranes, mechanical, electrical, hydraulic, and operational systems, safety features & routine maintenance.	30:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
SSD/N0329 v 1.0: Inspection, Maintenance, and Certification of Lifting Equipment	30:00 Hours	15:00 Hours	15:00 Hours	00:00 Hours	60:00 Hours
Module 4: Inspection, maintenance, and certification of cranes and other lifting equipment.	30:00 Hours	15:00 Hours	15:00 Hours	00:00 Hours	60:00 Hours
SSD/N0330 v 1.0: Legal and Regulatory Compliance for Lifting Operations.	30:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
Module 5: Statutory regulations, organizational policies, and	30:00	30:00	00:00	00:00	60:00

industry standards governing lifting operations.	Hours	Hours	Hours	Hours	Hours
SSD/N0331 v 1.0: Hazard Identification, Risk Assessment, and Incident Reporting in Lifting Operation	30:00 Hours	15:00 Hours	15:00 Hours	00:00 Hours	60:00 Hours
Module 6: Identify & detect risks & hazards, suggest mitigation of hazards, and follow proper incident reporting procedures to prevent accidents.	45:00 Hours	45:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
SSD/N0332 v 1.0: Safety of Plant, Machinery, and Vehicle in Lifting Operation.	30:00 Hours	10:00 Hours	20:00 Hours	00:00 Hours	60:00 Hours
Module 7: Safe operation of plant, machinery, and vehicles at work sites, in lifting operations.	30:00 Hours	10:00 Hours	20:00 Hours	00:00 Hours	60:00 Hours
SSD/N0333 v 1.0: Planning and Organizing Lifting & Rigging and Emergency Protocols	30:00 Hours	20:00 Hours	10:00 Hours	00:00 Hours	60:00 Hours
Module 8: Plan, organize, and manage emergency protocols during lifting and rigging operations.	30:00 Hours	20:00 Hours	10:00 Hours	00:00 Hours	60:00 Hours
SSD/N0334 v 1.0: Load Planning and Stability Control in Lifting Operation	30:00 Hours	15:00 Hours	15:00 Hours	00:00 Hours	60:00 Hours
Module 9: Load plan, weight calculation, and stability control, equipment limits, preventing accidents during lifting and rigging operations.	30:00 Hours	15:00 Hours	15:00 Hours	00:00 Hours	60:00 Hours
SSD/N0335 v 1.0: Communication and Team Coordination in Lifting Operations	15:00 Hours	05:00 Hours	10:00 Hours	00:00 Hours	60:00 Hours
Module 10: Skills use of hand signals, radios, and verbal instruction to ensure clear coordination among crane operators,	15:00 Hours	05:00 Hours	10:00 Hours	00:00 Hours	60:00 Hours

riggers, and supervisors.					
SSD/N0336 v 1.0: Health, Hygiene and Environment Protocols for Lifting & Rigging Operations	15:00 Hours	10:00 Hours	05:00 Hours	00:00 Hours	60:00 Hours
Module 11: Hygiene practice, environmental hazard control, stress management, and compliance with safety regulation ensure a safe, productive, and healthy work environment.	15:00 Hours	10:00 Hours	05:00 Hours	00:00 Hours	60:00 Hours
DGT/VSQ/N0102: Employability Skills	30:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	60:00Hours
Module 12: Scope in employment, financial dealing, digital literacy and communication with employer or customer.	30:00 Hours	30:00 Hours	00:00 Hours	00:00 Hours	60:00 Hours
Total Duration (including one Elective):	300:00 Hours	210:00 Hours	90:00 Hours	00:00 Hours	600:00 Hours

Module Details

Module1: Introduction to Training Program, Overview, assessments, role of Crane Inspector.

Mapped to SSD/N0327, v1.0

Terminal Outcomes:

- Discuss role of Crane Inspector, sectors & industries.
- Employment opportunities, career development & International opportunities.
- Course approach, duration, training & assessment processes.

Duration: 04:00	Duration: 00:00
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
• Role & responsibilities of Crane Inspector. • Iceberg theory of safety. • Career progression in the occupation. • Industries for Employment & international opportunities for employment. • Training approach & methodology. • Assessment process & Certification.	



• The assistance provided by AB/TP/LMIS in employment.	
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Nil	

Module 2 : Foundational understanding of lifting and rigging operations along with the roles and responsibilities of personnel involved.

Mapped to SSD/N0327, v1.0

Terminal Outcomes:

- Acknowledge principles of lifting and rigging operations.
- Pinpoint type of rigging equipment and their proper use.
- Carry out safe lifting operations in accordance with safety standards.
- Enact load calculations and determine safe lifting capacities.
- Undertake common hazards in lifting and rigging operations and apply mitigation strategies.

Duration: 26 Hours	Duration: 30 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes

● Foundational principles of lifting, rigging and Load Handle, key terminology, types of lifting systems. ● Different types of rigging equipment, slings, shackles, hooks, and lifting beams, and describe their appropriate use. ● Significance of load dynamics & slings angles, load weight, distribution, slip or tip, and center of gravity. ● Knowledge of safety risks & standards, regulations, with best practices that govern lifting and rigging operations, emphasis-OSHA, ASME, and ISO standards. ● Importance of the crane safety inspector, upholding safety standards compliance. ● Duties of crane operators in perform safe lifts. ● Load preparation and guiding lifts, responsibility-assess load's weight and dimensions, selection equipment. ● Facilitating team collaboration, rigging supervisor in managing rigging operations. ● Familiarization & know importance of safety checks in pre-lift inspections, maintenance of rigging equipment, and how to conduct routine. ● Significance of personal protective equipment (PPE)-good grip gloves, foot protection steel-toed boots in lifting operations. ● Recognize standard safety protocols with best emergency control measures lockout cables /tagout procedures with hasps & lock. ● Discuss correct techniques for attaching and securing loads to rigging equipment, ensuring load stability and safety during lifts. ● Explain adherence to safety standards throughout operations to reduce risks, importance of clear communication in lifting operations.	● Demonstrate the ability to inspect principles of lifting, rigging, and load handling (stability, knot tying, weight limits, gear selection) ensures compliance with safety standards. ● Demonstrate the ability to find common tools and right equipment, proper setup, weight distribution, shackles & eye bolts. ● Demonstrate the ability to evaluate importance of load stability and correct sling angles for safe lifting (correct & effects of sling angle, shackles, hooks, & movement) based on load type and lift plan. ● Demonstrate the ability to safely perform lifting operations, securing loads, operating lift equipment, and maintain load stability throughout operation. ● Demonstrate the ability of the crane safety inspector in ensure compliance with safety standards. ● Demonstrate the ability to communicate clearly using standard hand signals and radio communication to guide crane operators in executing safe lifts. ● Demonstrate the ability to describe duties of riggers in load preparation and guiding lifts. ● Demonstrate the ability to safely attach and detach loads from rigging equipment and explain following industry standards and overseeing safety. ● Respond appropriately to emergency situations during Pre-lifting operations, including equipment failure, load drops, and environmental hazards. ● Demonstrate the ability to implement and assess a rigging plan, ensuring all safety and operational guidelines are followed. ● Demonstrate the ability to common safety protocols, lockout/tagout procedure and emergency control- Lockout device, hasp & padlocks, Tagout devices.
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- Discuss methods to minimize risks, monitor compliance with safety standards between riggers, crane operators, and ground personnel during operation. - Explain suitable communication methods, radio and hand signal, to effectively coordinate with team members.	- Demonstrate the ability to adherence to safety standards throughout operations to reduce risks. - Demonstrate the ability to use appropriate communication tools (e.g., radios, hand signals) to coordinate with team members.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.	

Module 3: Operational mechanisms and systems of cranes, mechanical, electrical, hydraulic, and operational systems, safety features & routine maintenance.

Mapped to SSD/N0328, v1.0

Terminal Outcomes:

- Comprehend the operational mechanisms of different crane types.
- Ascertain and explain key mechanical, hydraulic, and electrical systems in cranes.
- Grasp knowledge of crane control systems, including safety features and fail-safe mechanisms.
- Conduct basic troubleshooting and maintenance of crane systems.

- Classify the importance of load charts, operating limits, and safety regulations related to crane operations.

Duration: 30 Hours	Duration: 30 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
• Several types of mechanical cranes elements (booms, hooks, slings, and gears) describe their primary components and functions. • Boom types (e.g., telescopic, articulated) affection during operations- stability, flexibility, center of gravity effects. • Counter weights role in ensuring crane stability- Cog, Sling, load distribution, impact on lifting capacity and many more. • Hydraulic systems in crane movements (e.g., hydraulic pump, control valves, lifting, lowering). • Electrical components troubleshooting and maintenance- control systems, motors, and sensors. • Detect common malfunctions in hydraulic and electrical systems (fluid leaks, wiring issue, pressure loss, overheating). • Safety features such as calibration, anti-two-block systems and limit switches. • Interpretation crane load charts and determine safe operating limits for different lifting scenarios.	• Demonstrate the ability to key mechanical components- Booms, Hooks, Slings, and Gears thorough pre-operational inspections of crane. • Demonstrate the ability to how boom types (e.g., telescopic, articulated) affect operations. • Demonstrate the ability to interpret crane load charts and use them to determine safe operating limits for lifting tasks. • Demonstrate the ability to operate hydraulic systems to extend booms, hoist loads, and deploy outriggers for load stabilization. • Demonstrate the ability to identify electrical components such as control systems, motors, and sensors. • Demonstrate the ability to detect common malfunctions in hydraulic and electrical systems. • Demonstrate the ability to detect operation of braking systems to prevent unintended movement. • Demonstrate the ability to define role of safety features such as anti-two-block systems and limit switches.

● Basic principles of crane maintenance and troubleshoot for hydraulic, mechanical, and electrical faults- routine inspections and identify common issues. ● Explain system maintenance as per manufacturer's guidelines. ● Discuss relevant documents and reporting of any fault in safety standards, regulations, and best practices governing crane operation.	● Demonstrate the ability to use load indicators and charts to monitor crane capacity. ● Demonstrate the ability to conduct basic maintenance tasks and troubleshoot common mechanical, hydraulic, and electrical issues during crane operations. ● Demonstrate the ability to do all systems are maintained according to manufacturer's guidelines. ● Demonstrate the ability to maintain documents and report any faults to the appropriate personnel or upper management.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.	

Module 4: Inspection, maintenance, and certification of cranes and other lifting equipment.

Mapped to SSD/N0329, v1.0

Terminal Outcomes:

- Perceive thorough pre-operation and scheduled inspections verify equipment safety and standards compliance and maintenance of lifting equipment.

- Conduct maintenance per manufacturer guidelines to uphold equipment reliability.
- Conduct detailed inspections, identify and report defects, malfunctions, and non-compliance issues promptly.
- Ensure certification and testing records are valid, up-to-date, and accessible.
- Discern the certification processes for lifting equipment and the role of competent authorities in ensuring compliance.

Duration: 30 Hours	Duration: 15 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
• Visual inspections of equipment, identify signs of wear, damage, and potential safety hazards, safe and efficient operation. • Functionality of safety devices, indicator on lifting equipment maintain safety standards and prevent operational accidents. • Detailed inspection procedures required to assess condition of slings, hooks, pulleys, ropes, and lifting gear & safety integrity for lifting operations. • Best practices for maintenance activities according to manufacturer's guidelines, optimal equipment performance and safety compliance. • Faults in lifting equipment and necessary repairs to maintain operational safety and efficiency. • Coordination with maintenance teams for major repairs or replacements, for safe operation of lifting equipment. • National and international safety standards, such as OSHA and LOLER, to guarantee safe operation. • Certificates testing and maintenance records are valid & access to	• Demonstrate the ability to perform comprehensive pre-operational inspections of various types of lifting equipment for signs of wear and damage. • Understand proficiency in carrying out safety devices, indicator on lifting equipment maintenance tasks on lifting equipment to enhance performance and safety. • Demonstrate the ability to conduct detailed inspections of slings, hooks, pulleys, ropes, and lifting gear & safety integrity lifting equipment, identifying common defects and wear indicators. • Demonstrate the ability to perform load testing on lifting equipment to ensure compliance with safety standards and operational limits. • Demonstrate the ability to understand Minor faults and it's repair for lifting equipment. • Demonstrate knowledge of and adherence to best practices for the care and maintenance of lifting equipment. • Demonstrate the ability to identify and mitigate risks associated with lifting equipment with both national and international safety standards.

maintain compliance and safety standards. • Document preparation for audits and certifications to ensure compliance with safety standards. • Documentation of defects, faults, and non-compliance issues to maintain accurate records and facilitate corrective actions. • Inspection findings and reporting to relevant personnel, timely corrective actions, maintenance of safety and operational standards. • Relevant method of monitoring and follow up on corrective actions to verify compliance, ensuring issues are effectively resolved and equipment remains safe for operation.	• Demonstrate the ability to maintain accurate records and documentation related to lifting equipment inspections, maintenance, and certification. • Demonstrate the ability to conduct training sessions for defects, faults, and non-compliance and safety briefings related to the use and care of lifting equipment.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.	

Module 5: Statutory regulations, organizational policies, and industry standards governing lifting operations.

Mapped to SSD/N0330, v1.0

Terminal Outcomes:

- Carry out the legal framework governing lifting operations at local, national, and international levels.

- Illustrate key regulatory bodies and their roles in enforcing compliance.
- Interpret relevant safety standards and regulations related to lifting equipment and operations.
- Recognize the responsibilities of employers and employees in ensuring safe lifting practices.
- Develop and implement policies and procedures that ensure compliance with legal and regulatory requirements.
- Prepare for and manage regulatory audits and inspections to ensure compliance with safety standards and regulations.

Duration: 30 Hours	Duration: 30 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
• Importance of legal frameworks and regulations that govern lifting activities across various jurisdictions. • Regulatory agencies involved in enforcing safety and compliance in lifting operations and their respective roles. • Regulatory requirements to operational teams understands and compliance with safety and legal standards. • Align with organizational safety protocols to uphold a safe and compliant work environment. • Implement compliance policies and procedures specific to lifting activities. • Incident reporting and investigation procedures in maintaining compliance and improving safety. • Equipment certification and safety inspections are current to maintain compliance.	• Demonstrate the ability to conduct laws and safety regulations for lifting operations to ensure adherence to relevant accidents, equipment damage, and legal repercussions. • Demonstrate proficiency in aligning with legal and safety standards to maintain a safety at workplace. • Demonstrate the ability to regulatory requirements to operational teams to ensure safety standards and compliance are understood and followed. • Demonstrate the ability to comply with organizational safety protocols to maintain consistency and support a safe work environment. • Demonstrate the ability to actively monitor lifting operations adherence to establish policies and procedures, promote safety and compliant practices.

- Documentation and recordkeeping requirements necessary for compliance with safety regulations. - Best practices for safe lifting operations, compliance and minimizing risk. - Importance of continuous improvement in safety and compliance best practices in lifting activities. - Non-compliance report to appropriate personnel and external authorities, corrective actions and maintain regulatory compliance. - Corrective actions to address non-compliance and prevent recurrence.	- Demonstrate the ability to non-compliance issues to relevant authorities, initiate corrective actions and uphold safety and regulatory standards. - Demonstrate the ability to equipments certifications and safety inspections are up to date & maintain compliance and operational safety. - Demonstrate proficiency in applying best practices audits, inspections, and certifications, compliance and facilitate effective lifting operations. - Demonstrate the ability to prepare documentation for regulatory audits and internal reviews, compliance and continuous improvement. - Demonstrate the ability to identify and document incidents of non-compliance to facilitate corrective actions.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.	

Module 6: Identify & detect risks & hazards, suggest mitigation of hazards, and follow proper incident reporting procedures to prevent accidents.

Mapped to SSD/N0331, v1.0

Terminal Outcomes:

- Pinpoint common hazards associated with lifting operations and equipment.
- Conduct comprehensive risk assessments to evaluate the severity and likelihood of identified hazards.
- Implement control measures to mitigate risks in lifting activities.
- Illustrate the importance of incident reporting and its role in improving safety practices.
- Develop effective incident reporting procedures and documentation practices.
- Ascertain incidents to determine root causes and recommend preventive measures.

Duration: 30 Hours	Duration: 15 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
● Types of hazards commonly associated with lifting operations. ● Principles of risk assessment and importance of environmental impact in lifting operations. ● Various techniques used in monitor to wear, defects, or malfunctions that pose risks, operational safety and reliability. ● Various control measures risk assessments available to mitigate identified risks, decision-making and more efficiently in lifting activities. ● Importance of incident reporting and control measures to team members, promoting awareness.	● Demonstrate the ability to identify potential hazards in a variety of lifting scenarios- cranes, equipment, and site conditions. ● Demonstrate environmental factors (e.g., high winds, uneven surfaces) that could impact operations, safe and effective lifting operations. ● Demonstrate the ability to monitor equipment for tear, wear, or defects, that pose risks to ensure safe lifting operations and prevent accidents. ● Demonstrate the ability to perform risk assessments to evaluate & impact of identified hazards, decision-making and enhanced safety in lifting operations. ● Demonstrate the ability to develop preventive measures to mitigate risks, safety and operational efficiency.

● Incident reports aligning with organizational procedures and standards, promoting consistency and supporting effective incident analysis. ● Root cause analysis techniques used to investigate incidents in lifting operations. ● Detailed records of incidents and corrective actions taken, supporting accountability and ongoing safety improvements. ● Role of incident reporting and risk assessment in fostering a culture of continuous improvement in safety. ● Implementation of corrective measures, ensuring effectiveness and sustained safety compliance. ● Safety audits, participation and input for continuous improvement, enhances organizational safety practices.	● Demonstrate the ability to investigate incidents, near-misses, and safety violations promptly, effective tracking and resolution of safety issues. ● Demonstrate incident reports are aligned with organization and standards, maintain consistency and compliance in documentation during lifting. ● Demonstrate the ability to conduct root-cause analysis to identify underlying factors contributing to incident, implemented to prevent recurrence. ● Detailed records of incidents and corrective actions taken ensure accountability and facilitate continuous improvement in safety practices. ● Demonstrate the ability to evaluate existing incidents and verify the implementation of corrective measures to ensure effective resolution. ● Demonstrate active participation in safety meetings and training related to hazard identification and incident reporting.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.	



Module 7: Safe operation of plant, machinery, and vehicles at work sites, in lifting operations.

Mapped to SSD/N0332, v1.0

Terminal Outcomes:

- Identify potential hazards associated with plant, machinery, and vehicles used in lifting operations.
- Knowledge of safety regulations and standards governing the operation of lifting equipment.
- Implement safety measures and best practices to mitigate risks associated with lifting operations.
- Conduct inspections and maintenance of lifting machinery and vehicles to ensure safety and compliance.
- Develop emergency response procedures specific to lifting operations involving machinery and vehicles.

Duration: 30 Hours	Duration:10 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes

● Safety protocols relevant to the operation of plant machinery and vehicles in lifting operations. ● Manufacturer's instructions and safety guidelines to maintain safe and effective crane operations. ● Use of appropriate personal protective equipment (PPE), safety and compliance in lifting operations. ● Pre-operation hazards associated with the use of plant machinery and vehicles in lifting operations. ● Detection of wear & tear, damage, or malfunctions in equipment and report findings to the maintenance team for timely corrective action. ● Addressing faults promptly to maintain safety and operational efficiency. ● Lockout/tagout procedures, during maintenance, prevention of accident equipment activation and safe working environment. ● Vehicle and personnel interactions to prevent accidents and enhance safety during lifting operations. ● Adverse weather conditions, safety, and mitigate environmental risks. ● Machine operators, supervisors, and team, implementation of safety regulations to enhance safety practice.	● Demonstrate the ability to monitor thorough pre-operation of plant, machinery and inspections of lifting equipment and vehicles. ● Demonstrate the ability of operators to follow manufacturer's instructions and safety guidelines. ● Demonstrate proficiency in following safe operations, using appropriate personal protective equipment (PPE) in plant machinery and vehicles. ● Demonstrate the ability to perform pre-operation inspections of machinery, plant, and vehicles to identify faults on ongoing safety of lifting. ● Demonstrate the ability to identify wear, damage, or malfunctions and brainstorm solution. ● Demonstrate inspection results and ensure prompt resolution of identified faults in lifting operations. ● Demonstrate the ability to engage in continuous safety improvement, adherence safety protocols, lockout/tagout (LOTO) procedures. ● Demonstrate the ability to report incidents, conduct investigations and monitor vehicles and interactions to enhance safety practices. ● Demonstrate the ability to mitigate environmental risks, waste, uneven surfaces and adverse weather conditions ensure safe lifting.
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● Significance of compliance with statutory and organizational safety standards during all lifting operations. ● Safety briefings for continuous improvement initiatives.	● Demonstrate the ability to uphold compliance with safety standards, collaborate with machine operators, supervisors, and safety officers. ● Demonstrate the ability to compliance with statutory and organizational safety standards in all crane operations. ● Demonstrate the ability to safety briefings and contribution to continuous improvement initiatives.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.	

Module 8: Plan, organize, and manage emergency protocols during lifting and rigging operations.

Mapped to SSD/N0333, v1.0

Terminal Outcomes:

- Detailed emergencies and risks, lifting and rigging plans based on project requirements and safety standards.
- Select and organize the appropriate equipment and resources for emergency response plans in lifting and rigging operations.

- Implement effective communication and coordination strategies among team members.
- Illustrate potential emergency situations and develop preparedness.
- Conduct emergency drills and simulations to improve preparedness related to lifting and rigging operations.

Duration: 30 Hours	Duration: 20 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
● Common emergencies in lifting operations, equipment failures, load slippage, and environmental hazards. ● Site conditions and risks, potential emergency triggers in lifting operations. ● Monitor equipment and team activities, detection early signs of potential emergencies. ● Detailed emergency response plans aligned with organizational policies.	● Demonstrate the ability to Common Emergencies Such as Equipment Failures, Load Slippage, or Environmental Hazards ● Demonstrate the ability to assess site conditions and risks that could lead to emergencies. ● Demonstrate the ability to monitor equipment and team activities to detect early signs of Potential Emergencies. ● Demonstrate the ability to prepare detailed emergency response plans aligned with Organizational Policies.

● Explain roles and responsibilities of team members during emergencies. ● Availability and functionality of emergency equipment-alarms, fire extinguishers, and rescue kits. ● Smooth execution of emergency protocol, Coordinate with crane operators, riggers, and supervisors. ● Clear lines communication and designating emergency leaders. ● Monitoring compliance with emergency procedures while lifting operations. ● Documenting and evaluating effectiveness of drills and protocols. ● Conducting post-incident reviews, identification of gaps for improvement of future responses.	● Demonstrate & define roles and responsibilities of team members during emergencies. ● Demonstrate the ability to availability and functionality of emergency equipment. ● Demonstrate the ability to coordinate with crane operators, riggers, and supervisors to ensure smooth execution of emergency protocols. ● Demonstrate knowledge to establish clear lines of communication and designating emergency leaders. ● Demonstrate the ability to monitor compliance with emergency procedures during lifting operations. ● Demonstrate the ability to organize regular emergency drills and simulations to enhance team preparedness. ● Demonstrate the ability to document and evaluate the effectiveness of drills and protocols. ● Demonstrate the ability to conduct post-incident reviews to identify gaps and improve future responses.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	



Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.

Module 9: Load plan, weight calculation, and stability control, equipment limits, preventing accidents during lifting and rigging operations.
Mapped to SSD/N0334, v1.0

Terminal Outcomes:

- Evaluate load characteristics and determine stability requirements for lifting operations.
- Develop comprehensive load plans that consider weight distribution, center of gravity, and rigging techniques.
- Illustrate and apply stability control measures to prevent load shifting and tipping during lifting.
- Analyze environmental factors that affect load stability and lifting operations.
- Implement best practices for load handling and secure lifting.

Duration: 30 Hours	Duration: 15 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
• Several site conditions characteristics and determining the feasibility of lift operations. • Type of loads, size & shape of weights to be lifted. • Lift equipment and accessories suitable for the Operation. • Total weight of loads calculation, attachments and accessories. • Sling Angles and Pressure Points Calculation ensure Load Stability. • Correct Placement of counterweights for Optimal Balance. • Crane stability indicators and load charts monitor for safe lifting operations. • Boom angle, sling length, and load position Adjust to maintain crane stability. • Equipment capacity, load limit, weight safety limit. • Accessibility and adherence to load charts and equipment manuals. • Compliances with Regulatory Standards and Safety Protocols.	• Demonstrate the ability to Assess Site Conditions and Feasibility of Lifting Operations. • Demonstrate the ability to identify load type and weight for lifting operations. • Demonstrate the ability to verify lifting equipment and accessories suitability. • Demonstrate the ability to calculate total weight of loads, attachments and accessories. • Demonstrate the ability to determine Center of Gravity and Load Distribution for Safe Lifting. • Demonstrate the ability to calculate sling angles and identify pressure points to ensure load stability. • Demonstrate the ability to correct placement of counterweights for balance. • Demonstrate the ability to monitor crane stability indicators and load charts during lifting operations. • Demonstrate the ability to adjust boom angle, sling length, and load position to maintain stability. • Demonstrate the ability to confirm load weight does not exceed equipment's capacity. • Demonstrate the ability to accessibility and adherence to load charts and equipment manuals.

	● Demonstrate the ability to check compliance with regulatory standards and safety protocols.
Classroom Aids:	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.	

Module 10: Skills use of hand signals, radios, and verbal instruction to ensure clear coordination among crane operators, riggers, and supervisors.

Mapped to SSD/N0335, v1.0

Terminal Outcomes:

- Use and interpret standardized hand signals used in lifting operations.
- Demonstrate proficiency in using radios for clear communication during lifting operations.
- Demonstrate the ability to deliver clear and concise verbal instructions to team members during lifting operations.
- Demonstrate the ability to coordinate effectively among crane operators, riggers, and supervisors using multiple communication methods.
- Identify and mitigate barriers to effective communication in lifting operations.
- Demonstrate knowledge of emergency communication protocols and procedures during lifting operations.

Duration: 15 Hours	Duration: 5 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
• Explain suitable hand signals, radios, or verbal communication during lifting operations. • Explain various instructions & team communications. • Communication methods for any changes or risks & hazards to relevant personnel. • Effective collaboration among crane operators, riggers, and supervisors. • Team activity, confirmations & monitoring of adherence to the lifting plan. • Collaboration with team in response to environmental factors or operational difficulties before it happens. • Potential conflicts within the team and resolve them proactively. • Collaboration and transparent communication, strengthen team dynamics. • Coordination with team through constructive feedback for better execution. • Pre-operation lift plan shall be briefings to team aligned with lifting safety.	• Demonstrate the ability to use appropriate hand signals, radios, or verbal instructions during lifting operations. • Demonstrate the ability to instructions understood and acknowledged by the team. • Demonstrate the ability to for any changes or risks communicate immediately to relevant personnel. • Demonstrate the ability to clear coordination must between crane operators, riggers, and supervisors. • Demonstrate the ability to team monitor & action ensure they align with the lift Plan. • Demonstrate the ability to team coordination based on environmental conditions or operational challenges. • Demonstrate the ability to potential conflicts within the team and resolve them proactively. • Demonstrate the ability to encourage collaboration and open communication to enhance teamwork. • Demonstrate the ability to improve team coordination for constructive feedback.

- Improvement and refining of better opportunity, review of post-operation for assessment performance. - Document preparation and sharing of gained experience, instructions to team for safe Implementation.	- Demonstrate the ability to pre-Operation briefings align with team members with the lifting plan. - Demonstrate the ability to post-operation briefs & review performance, identify areas for modification.
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Classroom Aids:

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.

Tools, Equipment and Other Requirements

Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.

Module 11: Hygiene practice, environmental hazard control, stress management, and compliance with safety regulation ensure a safe, productive, and healthy work environment.

Mapped to SSD/N0336, v1.0

Terminal Outcomes:

- Comprehend of applicable Hygiene Practices.
- Pinpoint Environmental Hazard Control.
- Knowledge of stress management techniques to promote mental well-being in the workplace.
- Ascertain safety culture and well-being within the workplace.
- Demonstrate the ability to evaluate and improve workplace safety and hygiene practices.

Duration: 15 Hours	Duration: 10 Hours
Theory–Key Learning Outcomes	Practical–Key Learning Outcomes
• Discuss personal hygiene standards at the workplace (hand wash, hair and facial wash, clean nails, regular shower and clothes shall be proper hygienic). • Explain adherence to PPE standards for lifting and rigging activities. • Routine health evaluations confirm readiness for duty. • Explain environmental risks- heat exposure, noise pollution, and air contamination. • Discuss measures to reduce environmental risks during operations (temperature, lighting, depletion, disruption). • Explain signs of stress, fatigue, and burnout in workers (sore eyes, panics, drained, mood swings, sleep problems, irritation). • Explain mental health support and counseling services (eat healthy, stay hydrated, try a relax, set goals and priority). • Discuss healthy work-life balance, mental wellness & well being. • Regular health and safety meetings to enhance awareness. • Discuss managing health and environmental emergency situations & offer instruction.	• Demonstrate the ability to adhere to personal hygiene standards at the workplace. • Demonstrate the ability to ensure adherence to PPE standards for lifting and rigging activities. • Demonstrate the ability to perform routine health evaluations to confirm readiness for duty. • Demonstrate the ability to recognize environmental risks excessive heat, noise pollution, and air contamination. • Demonstrate the ability to establish measures to reduce environmental risks during operations. • Demonstrate the ability to oversee adherence to waste management and pollution control protocols. • Demonstrate the ability to recognize initial indicators of stress, exhaustion, and burnout in employees. • Demonstrate the ability to access mental health support and counseling services. • Demonstrate the ability to encourage a healthy work-life balance to support mental wellness. • Demonstrate the ability to conduct regular health and safety meetings to enhance awareness. • Demonstrate the ability to provide training on handling emergencies related to health and environmental risks.



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| <ul style="list-style-type: none">Organize documentation and analyze health-related events to enhance future procedures. | <ul style="list-style-type: none">Demonstrate the ability to compile documentation and analyze health-related events to enhance future procedures. |
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Classroom Aids:

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.

Tools, Equipment and Other Requirements

Load Cells and Load Testing Equipment, Laser Alignment Tools, Digital Callipers, Micrometres, Dial Indicators, Measuring Tapes, Spirit Levels, Plumb Bobs, Theodolites and Total Stations, Crane Scales, Personal Protective Equipment (PPE), First Aid Kits, Fire Extinguishers, Lockout/Tagout (LOTO) Kits, Rescue Equipment (e.g., rescue ropes, stretchers), Wrenches and Spanners, Torque Wrenches, Screwdrivers and Nut Drivers, Hammers and Mallets, Impact Drivers, Cordless Drills, Hydraulic Jacks, Grease Guns for lubrication, Slings, Shackles, and Hooks, Chains and Chain Hoists, Spreader Bars, Rigging Hardware, Tag Lines for guiding loads.

Module 12: Scope in employment, financial dealing, digital literacy and communication with employer or customer.**Mapped to DGT/VSQ/N0102****Terminal Outcomes:**

- Describe the traits of an individual at the workplace.
- Demonstrate apply employability and entrepreneurship skills at workplace.

Duration: 30:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes

- Discuss the importance of Employability Skills in meeting the job requirements.
- Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.
- Discuss 21st century skills.
- Display positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations.
- Discuss the significance of reporting sexual harassment issues in time.
- Discuss the significance of using financial products and services safely and securely.
- Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws.
- Explain the importance of managing expenses, income, and savings.
- Discuss the significance of using the internet for browsing and accessing social media platforms, safely and securely.
- Discuss the need to identify opportunities for potential business, sources for arranging money and potential legal and financial challenges.
- Differentiate between types of customers.
- Explain the significance of identifying customer needs and addressing them.

- Show how to practice different environmentally sustainable practices.
- Use appropriate basic English sentences/phrases while speaking.
- Demonstrate how to communicate in a well -mannered way with others.
- Demonstrate working with others in a team.
- Show how to conduct oneself appropriately with all genders and PW.
- Show how to operate digital devices and use the associated applications and features, safely and securely.
- Create biodata.
- Use various sources to search and apply for jobs.

• Discuss the significance of maintaining hygiene and dressing appropriately. • Discuss the significance of dressing up neatly and maintaining hygiene for an interview. • Discuss how to search and register for apprenticeship opportunities.	
Classroom Aids:	
• Black/White Board, Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
• Laptop/computer, internet, mobile	

On The Job Training Plan: Crane Inspector (Safety)

SSD/N0329 - Inspection, Maintenance, and Certification of Lifting Equipment: 15 Hours
Key Learning Outcomes
• Perform detail pre-operation and schedule inspection of crane components. • Identify wear, defects, or malfunction, ensure safe operation of lifting equipment. • Ensure that all equipment certification are valid and up-to-date, supports legal and operational safety requirement. • Verify compliance with national and international safety standards OSHA.

- Preventive and corrective maintenance schedule as per guideline. Identify fault and collaborate with team for repair and preventive measures.
- Conduct load tests & verify cranes can handle capacities.
- Perform risk assessments and take measures to mitigate potential hazard before operations begin.
- Maintain records of inspection, maintenance activity, repair, and certification.

SSD/N0331 - Hazard Identification, Risk Assessment, and Incident Reporting in Lifting Operation. : 15 Hours

Key Learning Outcomes

- Identify hazards, environmental condition, and human factor.
- Conduct site inspection to recognize physical risk before start of operation.
- Evaluate hazards using risk assessment tools and prioritize risks.
- Carry out preventive measure to mitigate identified risks and environmental control strategy to enhance overall safety in lifting operation.
- Conduct investigations of incidents, performing root-cause analyses.
- Maintain accurate records of hazard identifications, risk assessments, incidents, and corrective actions.

SSD/N0332 - Safety of Plant, Machinery, and Vehicle in Lifting Operation. : 20 Hours

Key Learning Outcomes

- Perform pre-operation inspection identify signs of wear, damage.
- Conduct detail risk assessment for each lift operation.
- Maintain safety during plant and vehicle operation.
- Identify potential hazard unstable ground, environmental factor, or mechanical risk.
- Ensure compliance with manufacturer guideline and safety regulation.
- Establish an effective communication with team members.
- Maintain documents of inspection, incident, and safety practice.

SSD/N0333 - Planning and Organizing Lifting & Rigging and Emergency Protocols. : 10 Hours
Key Learning Outcomes
● Conduct risk assessment of lifting and rigging operations identify potential emergency, equipment failure or environmental hazards. ● Evaluate to prioritize safety measure and emergency planning. ● Develop clear and detail emergency response plan specific to lifting and rigging scenarios. ● Define role, responsibly, communication protocol, and evacuation procedure for all personnel involved. ● Establish efficient communication channel and ensure all team members familiar with emergency reporting protocols. ● Ensure drills are conducted properly. ● Ensure availability and proper maintenance of emergency response equipment, first aid kits. ● Make Sure incidents and near-misses are systematically documented.
SSD/N0334- Load Planning and Stability Control in Lifting Operation : 15 Hours
Key Learning Outcomes
● Assess and identify load characteristics, weight, dimensions, and COG, plan effective and prepare for safe lifting operation. ● Conduct weight and load distribution calculate and ensure selection of proper rigging equipment. ● Implements stability control measures to prevent equipment tipping during lifting operation. ● Select suitable rigging gear based on load type, weight, and lift requirement. ● Evaluate different rigging options, slings and shackles, ensure safe handling of loads. ● Apply technique to maintain equipment stability during lifting operations- proper load distribution and recognize dynamic factors affect load stability, swing or sudden stops. ● Create and maintain detailed lift plans, calculations, and inspection records support safety compliance improvement.
SSD/N0335- Communication and Team Coordination in Lifting Operations : 10 Hours
Key Learning Outcomes

- Define roles and utilize standard signals for all members involved in lifting operations.
- Utilize hand signals, radios, and verbal instructions during operation.
- Ensure seamless coordination among crane operators, riggers, and supervisors.
- Carry out Pre-lift briefings.
- Maintain continuous awareness of the work environment during lifting operations.
- Carry out post-operation debrief to review performance, document, and identify areas for improvement.
- Enhance clarity and prevent misunderstandings during complex lifts.

SSD/N0336 - Health, Hygiene and Environment Protocols for Lifting & Rigging Operations : 5 Hours

Key Learning Outcomes

- Carry health assessment and mandate the use of appropriate personal protective equipment (PPE) during lifting operation.
- Maintain hygiene standard during lifting operation.
- Emphasize importance of a clean work environment.
- Implement adequate rest break to manage worker fatigue during lifting operations.
- Monitor weather condition and assess site stability to prevent environmental risk.
- Manage emissions, noise pollution, and vibration, ensure safe and compliant lift operation.
- Conduct regular emergency response drill and ensure first-aid readiness on-site.
- Provide stress management support and emphasize importance of psychological well-being in high-stress environment.

Total Duration of OJT – 90 Hours (2 weeks)



Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI/12 th Pass	Any domain	10	Safety Domain	0	-	
Graduate in any discipline / Diploma in Engineering	Graduate in Civil, Mechanical, Automobile, Electrical Engineering. Graduate with Science.	5	Safety Domain	0	-	
M. Tech/ B. Tech	Graduate in Civil, Mechanical, Automobile, Electrical Engineering. Graduate with Science.	3	Safety Domain	0	-	

Trainer Certification	
Domain Certification	Platform Certification
Certified as Trainer for the Qualification “SSD/Q0304: Crane Inspector (Safety)” or higher qualification as per career progression by SSDF.	Recommended that the Trainer is certified for the Job Role: “Trainer (VET and Skills),” mapped to the Qualification Pack: “MEP/Q2601 v2.0”. The minimum score of 80%.



Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI/12 th Pass	Any domain	10	Safety Domain	0	-	
Graduate in any discipline / Diploma in Engineering	Graduate in Civil, Mechanical, Automobile, Electrical Engineering. Graduate with Science.	5	Safety Domain	0	-	
M. Tech/ B. Tech	Graduate in Civil, Mechanical, Automobile, Electrical Engineering. Graduate with Science.	3	Safety Domain	0	-	

Assessor Certification	
Domain Certification	Platform Certification
Certified as assessor for the Qualification “SSD/Q0304: Crane Inspector (Safety)” or higher qualification as per career progression.	Recommended that the Assessor is certified for the Job Role: “Assessor (VET and Skills),” mapped to the Qualification Pack: “MEP/Q2701 v2.0”. The minimum accepted score is 80%.



Assessment Strategy

The assessment will be based on concept of third-party assessments through certified assessors with empanelled Assessment Agencies of NCVET. The certification of each assessor will be done by SSDF through a process of selection, training, assessment & certification through training of assessor's program.

The assessments will include both formative & summative. The progressive assessments will be through trainer during progress of the training. The summative assessments will be carried by assessor through assessment agencies.

The assessment process will find whether the candidate or professional is competent or not to perform the job as per expected performance criteria. The assessment plan contains the following information:

- a) Assessment elements – Competencies based on performance criteria of each NOS.
- b) Methods of assessment – Written test (online/offline), viva and practical/ field exercises.
- c) Time of assessment – The assessment will be done both formative and summative (post orientation/training) of candidates.
- d) Place i.e., context of the assessment - The assessment will be conducted through theory, viva voce and practical/ field exercises, on simulators and will be both online and offline modes.
- e) The criteria for decision making– It will be based on assessment criteria & guidelines as given the qualification pack.
- f) Questions – The written questions, viva & practical questions will be set to cover all aspect of performance criteria and would have been validated from experts in the subject matter.
- g) Passing criteria & gradings – The passing criteria & gradings will be as per passing criteria given for each NOS and Guidelines for Assessment.



Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood to accomplish or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training Outcome is specified in terms of knowledge, understanding(theory)and skills (practical application).
OJT(M)	On-the-job training(Mandatory);trainees are mandated to complete specified hours of training on site
OJT(R)	On-the-job training(Recommended);trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work or produce a tangible work output by applying cognitive, affective, or psycho motor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.



Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standard
AB	Awarding Body
AA	Assessment Agency
TP	Training Partner