



Lab Technician - Life Sciences

Electives: Wet Lab/ Scale-up or Kilo Lab

QP Code: LFS/Q0509

Version: 2.0

NSQF Level: 3

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LFS/Q0509: Lab Technician - Life Sciences

Brief Job Description

The Lab Technician performs the processing of glassware for experimentation. The job holder is responsible for storage, handling chemical reagents/solutions and preparation of stock solutions for smooth execution of experiments and tests. They also provide all the required assistance to analysts and researchers in ensuring that laboratory activities are carried out in adherence with procedures laid in Good Manufacturing/ Laboratory/ Clinical Practices. The individual also assists lab in-charge in complying with WHO, NABL and other environmental, health and safety guidelines.

Personal Attributes

The individual should be good in communication skills. The job holder should have good analytical skills and possess the ability to take quick decisions. The person should be good in estimation skills and is expected to maintain integrity.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [LFS/N0531: Process the laboratory glassware/ plasticware for experimentation](#)
2. [LFS/N0533: Store & handle laboratory chemicals and maintain records](#)
3. [LFS/N0109: Ensure hygienic, clean and contamination-free work area and hoods in laboratory](#)
4. [LFS/N0101: Follow Environment, health and safety guidelines in GMP/GLP controlled areas and laboratory](#)
5. [LFS/N0561: Coordinate with chemist/researchers and cross-functional teams](#)

Electives(mandatory to select at least one):

Elective 1: Wet Lab

This NOS unit is about assisting the QC/Research team members while performing the experiments and analysis in a wet lab in adherence to safety standards.

1. [LFS/N0530: Assist the QC/Research team in performing the wet-lab experiments](#)

Elective 2: Scale-up or Kilo Lab

This NOS unit is about a lab technician performing the various scale-up operations in adherence to safety standards

1. [LFS/N0562: Perform scale-up operations under the supervision of researchers in the synthesis R&D/ kilo lab](#)

Qualification Pack (QP) Parameters

Sector	Life Sciences
Sub-Sector	Pharmaceutical, Bio Pharmaceutical, Contract Research
Occupation	Research and Development
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3141.9900
Minimum Educational Qualification & Experience	12th Class (Science Subjects)
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	28/09/2020
Next Review Date	28/09/2025
Deactivation Date	28/09/2025
NSQC Approval Date	
Version	2.0

LFS/N0531: Process the laboratory glassware/ plasticware for experimentation

Description

This job function is about processing the glassware/plastic ware for experimentation

Scope

The scope covers the following :

- Processing the glassware/plastic ware
- Environment sustainability

Elements and Performance Criteria

Processing the glassware/plasticware

To be competent, the user/individual on the job must be able to:

- PC1.** check the working condition of water nozzles and supply of the distilled and de-ionized water
- PC2.** select detergent which is compatible with area water and leaves behind no undesirable residue on the cleansed laboratory ware and equipment
- PC3.** wash and clean the glassware with appropriate solution and type of water
- PC4.** rinse the cleaned laboratory ware and equipment by de-ionized distilled water at the end of the cleaning process
- PC5.** inspect washed laboratory-ware and equipment for acid/reagent residues
- PC6.** dry and sterilize glassware in an Autoclave/Hot air oven/Dryer before further use
- PC7.** label the laboratory ware and equipment for specific laboratory studies

Environment Sustainability

To be competent, the user/individual on the job must be able to:

- PC8.** ensure energy conservation by switching off the machine and equipment, post operations
- PC9.** identify ways to optimize the usage of electricity/energy in various tasks/activities/processes
- PC10.** ensure no leakage of water in the lab premises
- PC11.** identify recyclable, non-recyclable, and hazardous waste generated
- PC12.** segregate waste into different categories to achieve zero pollution of land and water

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the proper procedure for selecting the material/product for cleaning
- KU2.** the characteristics of the product/material/detergents used for processing glassware/plasticware
- KU3.** use of monitoring and measuring devices in laboratory
- KU4.** the working principle and applications of autoclave, dryer, and water wash
- KU5.** the laboratory safety manual.

- KU6.** the standard operating procedures (SOPs) for the Cleaning process, handling laboratory chemicals and detergents, and maintenance of records for each instrument/equipment
- KU7.** the relevant guidelines for Good Laboratory Practices, (GLP), Good Manufacturing Practices (GMP) Good Clinical Practices (GCP) along with National Accreditation Board (NABL) and WHO for laboratories
- KU8.** the process of preparation and testing of reagent water in the laboratory
- KU9.** purpose of tests during the cleaning process, methods, and the equipment used
- KU10.** the quality requirements of materials and the effect of variation on process performance
- KU11.** the possible instrument faults, related causes, and the required corrective action
- KU12.** the safety measures adopted during handling, managing, any accidental exposure

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** use reading and comprehending skills to interpret manuals, SOPs, health and safety instructions, memos, reports, and notes/comments from the lab in charge
- GS2.** use the handwritten report or computer-based record/electronic mail to record and communicate details of work done to appropriate stakeholders
- GS3.** use organization skills to maintain proper and concise records as per given format and in compliance with ALCOA principle
- GS4.** use verbal communication skills to communicate confidential and sensitive information discretely to the authorized person and to interact with teammates
- GS5.** apply problem-solving skills to find solutions for workflow-related difficulties
- GS6.** apply planning and organizing skills for the activities to ensure their timely completion to achieve resource optimization
- GS7.** apply critical thinking skills to identify when and how to report an issue/concern to the lab in charge and other colleagues

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Processing the glassware/plasticware</i>	20	35	15	10
PC1. check the working condition of water nozzles and supply of the distilled and de-ionized water	-	-	-	-
PC2. select detergent which is compatible with area water and leaves behind no undesirable residue on the cleansed laboratory ware and equipment	-	-	-	-
PC3. wash and clean the glassware with appropriate solution and type of water	-	-	-	-
PC4. rinse the cleaned laboratory ware and equipment by de-ionized distilled water at the end of the cleaning process	-	-	-	-
PC5. inspect washed laboratory-ware and equipment for acid/reagent residues	-	-	-	-
PC6. dry and sterilize glassware in an Autoclave/Hot air oven/Dryer before further use	-	-	-	-
PC7. label the laboratory ware and equipment for specific laboratory studies	-	-	-	-
<i>Environment Sustainability</i>	5	5	5	5
PC8. ensure energy conservation by switching off the machine and equipment, post operations	-	-	-	-
PC9. identify ways to optimize the usage of electricity/energy in various tasks/activities/processes	-	-	-	-
PC10. ensure no leakage of water in the lab premises	-	-	-	-
PC11. identify recyclable, non-recyclable, and hazardous waste generated	-	-	-	-
PC12. segregate waste into different categories to achieve zero pollution of land and water	-	-	-	-
NOS Total	25	40	20	15

National Occupational Standards (NOS) Parameters

NOS Code	LFS/N0531
NOS Name	Process the laboratory glassware/ plasticware for experimentation
Sector	Life Sciences
Sub-Sector	Pharmaceutical, Bio Pharmaceutical, Contract Research
Occupation	Research and Development
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

LFS/N0533: Store & handle laboratory chemicals and maintain records

Description

This job function is about storing and handling of chemicals/reagents/solutions and maintaining their records in a laboratory

Scope

The scope covers the following :

- Storage and handling of chemicals
- Maintain laboratory records

Elements and Performance Criteria

Storage and handling of chemicals

To be competent, the user/individual on the job must be able to:

- PC1.** collect chemicals/reagents/solutions from the storage area by following the SOP
- PC2.** label the chemical containers with other information including date
- PC3.** store large bottles of acids and other hazardous substances on a shelf that is not more than three feet above floor level by following proper safety guidelines
- PC4.** place the acid-resistant trays below the bottles of mineral acids
- PC5.** wear appropriate safety eyewear and other personal protective equipment while handling chemicals/reagents/solutions
- PC6.** ensure that incompatible chemicals are kept away from each other
- PC7.** take Corrective Action and Preventive Actions (CAPA) in case of a spill or release of chemicals while transferring from one place to another
- PC8.** segregate and dispose of expired and waste laboratory chemicals as per the guidelines

Maintain laboratory records

To be competent, the user/individual on the job must be able to:

- PC9.** maintain catalog recordings and ensure to produce them when required (if the department houses audio-visual resources)
- PC10.** ensure that SOPs and manuals for each of the experiments is available
- PC11.** maintain the master logs for laboratory records and archive them
- PC12.** maintain test-specific reports and other records like sample logbook, registers, quality control data, incident reports, audit reports and printouts of instrument handling manuals

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the quality management systems guidelines from ISO-9000, ISO-14001, OHSAS-18000, ICH Q7 and 21 CFR

- KU2.** essential laboratory-related guidelines of Good Laboratory Practices, (GLP), Good Manufacturing Practices (GMP), Good Clinical Practices (GCP), National Accreditation Board (NABL) and WHO (World Health Organization) for laboratories
- KU3.** the environment sustainable procedures to dispose of expired and waste laboratory chemicals
- KU4.** the importance of identifying non-conforming products and the methods for storage of the same
- KU5.** the properties of all chemicals/reagents/solutions used in laboratory and procedure to use Material Safety Datasheets (MSDS) for each chemical
- KU6.** the general hazards in lab and ways to deal with them
- KU7.** the procedures of carrying out routine maintenance of laboratory instruments and equipment as well as environmental monitoring in the lab.
- KU8.** the methods of general housekeeping, storage and use of equipment, and maintenance.
- KU9.** operating process of equipment for controlling and monitoring storage conditions
- KU10.** the guidelines for waste chemical segregation in laboratory

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** use reading and comprehending skills to interpret manuals, SOPs, health and safety instructions, memos, reports, and notes/comments from the lab in charge
- GS2.** use the handwritten report or computer-based record/electronic mail to record and communicate details of work done to appropriate stakeholders
- GS3.** use organization skills to maintain proper and concise records as per given format and compliant with ALCOA principle
- GS4.** use verbal communication skills to communicate confidential and sensitive information discretely to the authorized person and to interact with teammates
- GS5.** apply problem-solving skills to find solutions for workflow-related difficulties
- GS6.** apply planning and organizing skills for all the activities to ensure their timely completion to achieve resource optimization
- GS7.** apply critical thinking skills to identify when and how to report an issue/concern to the lab in-charge and other colleagues
- GS8.** give attention to detail and apply analytical skills in choosing a well-defined method/instruction to resolve day to day problems

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Storage and handling of chemicals</i>	25	35	-	5
PC1. collect chemicals/reagents/solutions from the storage area by following the SOP	-	-	-	-
PC2. label the chemical containers with other information including date	-	-	-	-
PC3. store large bottles of acids and other hazardous substances on a shelf that is not more than three feet above floor level by following proper safety guidelines	-	-	-	-
PC4. place the acid-resistant trays below the bottles of mineral acids	-	-	-	-
PC5. wear appropriate safety eyewear and other personal protective equipment while handling chemicals/reagents/solutions	-	-	-	-
PC6. ensure that incompatible chemicals are kept away from each other	-	-	-	-
PC7. take Corrective Action and Preventive Actions (CAPA) in case of a spill or release of chemicals while transferring from one place to another	-	-	-	-
PC8. segregate and dispose of expired and waste laboratory chemicals as per the guidelines	-	-	-	-
<i>Maintain laboratory records</i>	10	20	-	5
PC9. maintain catalog recordings and ensure to produce them when required (if the department houses audio-visual resources)	-	-	-	-
PC10. ensure that SOPs and manuals for each of the experiments is available	-	-	-	-
PC11. maintain the master logs for laboratory records and archive them	-	-	-	-
PC12. maintain test-specific reports and other records like sample logbook, registers, quality control data, incident reports, audit reports and printouts of instrument handling manuals	-	-	-	-



Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	35	55	-	10

National Occupational Standards (NOS) Parameters

NOS Code	LFS/N0533
NOS Name	Store & handle laboratory chemicals and maintain records
Sector	Life Sciences
Sub-Sector	Pharmaceutical, Bio Pharmaceutical, Contract Research
Occupation	Research and Development
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

LFS/N0109: Ensure hygienic, clean and contamination-free work area and hoods in laboratory

Description

This job function is about ensuring the maintenance of hygienic, clean and contamination-free work area and hoods in a laboratory by following the Good Laboratory Practices and regulatory guidelines

Scope

The scope covers the following :

- Cleaning and sanitation activities before work
- Cleaning and sanitation activities during work
- Cleaning and sanitation activities after completion of work

Elements and Performance Criteria

Cleaning and sanitation activities before work

To be competent, the user/individual on the job must be able to:

- PC1.** ensure not to enter the lab without wearing a lab coat and PPE
- PC2.** inspect the lab, hood and machine area for proper ventilation, temperature and the availability of supplies for experiments
- PC3.** check for cleaning validation tag on machines, accessories, and glassware before starting the work
- PC4.** sterilize the hands before the start of work

Cleaning and sanitation activities during work

To be competent, the user/individual on the job must be able to:

- PC5.** follow appropriate process and precautions while working with different chemicals/reagents/solutions according to their chemical properties in adherence with MSDS and GLP guidelines
- PC6.** deal with accidental spillage, caused while carrying out the work
- PC7.** identify and report to the appropriate person for any required additional cleaning
- PC8.** segregate, store and dispose of the rejected products or generated waste, under the supervision of the supervisor and EHS personnel

Cleaning and sanitation activities after completion of work

To be competent, the user/individual on the job must be able to:

- PC9.** ensure that, on completion of the work the area is left clean and dry and meets WHO and GMP/GLP requirements of sanitized premises
- PC10.** perform the cleaning of the hood, equipment, and machine after every experiment
- PC11.** ensure that there is no chemical residue/substance left on the work area/equipment/machine/floor to avoid contamination in a new experiment
- PC12.** ensure that no waste/scrap material/ broken glassware is lying around
- PC13.** segregate and dispose of the waste garnered from the activity following the SOP

- PC14.** dispose of used and un-used solutions under supervision of the supervisor and EHS personnel following manufacturer's instructions, and clean the equipment thoroughly
- PC15.** place the trolley, equipment, and unused materials at their designated storage area, after use
- PC16.** ensure that personal protective equipment in the lab is clean, safe and securely stored

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the hygiene standards required in lab area and the importance of maintaining the same
- KU2.** the method to check the treated surface and equipment on completion of cleaning
- KU3.** the list of various equipment, machines, and instruments used in a lab
- KU4.** the role of different materials, chemicals, and equipment in cleaning and sanitation of lab area
- KU5.** the essential guidelines from WHO, Good Laboratory Practices (GLP), and Good Manufacturing Practices (GMP) for cleaning and sanitation activity
- KU6.** the process of cleaning validation
- KU7.** types of hazards and their handling procedures

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** use written communication skills to record and communicate details of work done to appropriate people using written report or computer-based record/electronic mail
- GS2.** use reading and comprehension skills to understand the various coding systems as per company norms
- GS3.** use verbal communication skills to interact with teammates, lab in charge, and cross functional teams
- GS4.** apply problem-solving skills to find solutions for workflow-related difficulties
- GS5.** apply planning and organizing skills for all the activities to ensure their timely completion to achieve resource optimization
- GS6.** apply critical thinking skills to analyze and identify when to report an issue/concern to the lab in charge and when to deal with a colleague individually, depending on the type of concern

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Cleaning and sanitation activities before work</i>	10	20	-	5
PC1. ensure not to enter the lab without wearing a lab coat and PPE	-	-	-	-
PC2. inspect the lab, hood and machine area for proper ventilation, temperature and the availability of supplies for experiments	-	-	-	-
PC3. check for cleaning validation tag on machines, accessories, and glassware before starting the work	-	-	-	-
PC4. sterilize the hands before the start of work	-	-	-	-
<i>Cleaning and sanitation activities during work</i>	10	15	-	5
PC5. follow appropriate process and precautions while working with different chemicals/reagents/solutions according to their chemical properties in adherence with MSDS and GLP guidelines	-	-	-	-
PC6. deal with accidental spillage, caused while carrying out the work	-	-	-	-
PC7. identify and report to the appropriate person for any required additional cleaning	-	-	-	-
PC8. segregate, store and dispose of the rejected products or generated waste, under the supervision of the supervisor and EHS personnel	-	-	-	-
<i>Cleaning and sanitation activities after completion of work</i>	10	20	-	5
PC9. ensure that, on completion of the work the area is left clean and dry and meets WHO and GMP/GLP requirements of sanitized premises	-	-	-	-
PC10. perform the cleaning of the hood, equipment, and machine after every experiment	-	-	-	-
PC11. ensure that there is no chemical residue/substance left on the work area/equipment/machine/floor to avoid contamination in a new experiment	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. ensure that no waste/scrap material/ broken glassware is lying around	-	-	-	-
PC13. segregate and dispose of the waste garnered from the activity following the SOP	-	-	-	-
PC14. dispose of used and un-used solutions under supervision of the supervisor and EHS personnel following manufacturer's instructions, and clean the equipment thoroughly	-	-	-	-
PC15. place the trolley, equipment, and unused materials at their designated storage area, after use	-	-	-	-
PC16. ensure that personal protective equipment in the lab is clean, safe and securely stored	-	-	-	-
NOS Total	30	55	-	15

National Occupational Standards (NOS) Parameters

NOS Code	LFS/N0109
NOS Name	Ensure hygienic, clean and contamination-free work area and hoods in laboratory
Sector	Life Sciences
Sub-Sector	Pharmaceutical, Bio Pharmaceutical, Contract Research
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

LFS/N0101: Follow Environment, health and safety guidelines in GMP/GLP controlled areas and laboratory

Description

This job function is about following the guidelines and rules for health, safety, environment, and security in the laboratory.

Scope

The scope covers the following :

- Follow health and hygiene protocols
- Follow safety and security procedures
- Follow emergency procedures

Elements and Performance Criteria

Follow health and hygiene protocols

To be competent, the user/individual on the job must be able to:

- PC1.** comply with health and personal hygiene-related protocols as per WHO standards and ICH GMP/GLP guidelines
- PC2.** sanitize hands with soap/alcohol based sanitizers before entering in laboratory and production area as per SOP
- PC3.** ensure to wear a lab coat while working in the laboratory
- PC4.** follow gowning procedures while entering in an environment-controlled work area like production shop floor, warehouse etc.
- PC5.** report any environment-related breach while working in laboratory to the lab in-charge or EHS personnel
- PC6.** disinfect the instruments and equipment before and after work as per workplace health and sanitization guidelines

Follow safety and security procedures

To be competent, the user/individual on the job must be able to:

- PC7.** comply with safety and security policies and procedures
- PC8.** use appropriate safety gears like headgear, masks, gloves and other accessories as mentioned in the guidelines, while carrying out work
- PC9.** report any identified breaches/ incidents/ accidents to the designated person
- PC10.** segregate and store sample/ chemicals/ waste material as per 5S system and SOP
- PC11.** adhere to storage and handling guidelines for hazardous material as per MSDS
- PC12.** take preventive actions against hazards in laboratory by following the safety instructions/guidelines as per MSDS and inform the concerned authority for the same
- PC13.** perform quenching of waste/unused and expired reagents and chemicals using environment sustainable methods under supervision of lab in charge and EHS personnel
- PC14.** complete training records with accuracy for all the attended safety drills and training

Follow emergency procedures

To be competent, the user/individual on the job must be able to:

- PC15.** inform the concerned designated person immediately about every unsafe act/ incident (spill, fall, injury, toxic inhale, fire or explosion) for suitable action
- PC16.** follow emergency procedures efficiently
- PC17.** raise alarm and warn other people who may be affected by hazard/unsafe incident

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** individual's role and responsibilities in relation to compliance with environment, health, hygiene and safety rules
- KU2.** the relevant laws and procedures related to the environment, health, and safety regulations
- KU3.** the implications that any non-compliance with health, safety and security may have on individuals and the organization
- KU4.** the limits of individual responsibility for dealing with hazards
- KU5.** workplace hazards in life sciences facility and reporting procedure for accident/ hazard as per GMP guidelines
- KU6.** the characteristics of chemical substances, precaution and safety measures required while handling them
- KU7.** the gowning procedure for controlled areas
- KU8.** the organization's emergency procedures for different situations and the importance of following these
- KU9.** the evacuation procedures for employees, contract staff and visitors
- KU10.** the procedure to summon medical assistance and the emergency services in case of necessity
- KU11.** the types of breaches in the environment, health, safety, and security and their reporting procedures
- KU12.** the type of safety gears and procedure to use them
- KU13.** the importance of material segregation and 5S system
- KU14.** the WHO guidelines for personal hygiene, handling and storing hazardous material
- KU15.** the ALCOA principles for documentation and data integrity

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** use written communication skills to accurately record the required information to be reported as per SOP
- GS2.** use reading and comprehension skills for interpreting the various coding systems and to read instructions, guidelines, procedures, rules, and signage to understand the procedure to be followed
- GS3.** use listening skills to act appropriately on the emergency alarms
- GS4.** use verbal communication skills to interact with teammates, lab in charge and cross-functional teams to communicate about hazards, safety instructions and accidents

- GS5.** apply problem-solving skills to find solutions for workflow-related difficulties
- GS6.** apply planning and organizing skills to plan and organize tools and material required for work to fulfil environment, health, safety and security requirements
- GS7.** apply critical thinking skills to analyze and identify when to report an issue/concern to the lab in charge and when to deal with a colleague individually, depending on the type of concern
- GS8.** use critical thinking skills to ascertain the breach/ compliance of EHS protocols
- GS9.** apply customer centricity to remain compliant with data integrity rules, GMP guidelines
- GS10.** apply decision-making skills to make balanced judgments within the authority in different situations while dealing with the hazards and breaches

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow health and hygiene protocols</i>	10	20	-	5
PC1. comply with health and personal hygiene-related protocols as per WHO standards and ICH GMP/GLP guidelines	-	-	-	-
PC2. sanitize hands with soap/alcohol based sanitizers before entering in laboratory and production area as per SOP	-	-	-	-
PC3. ensure to wear a lab coat while working in the laboratory	-	-	-	-
PC4. follow gowning procedures while entering in an environment-controlled work area like production shop floor, warehouse etc.	-	-	-	-
PC5. report any environment-related breach while working in laboratory to the lab in-charge or EHS personnel	-	-	-	-
PC6. disinfect the instruments and equipment before and after work as per workplace health and sanitization guidelines	-	-	-	-
<i>Follow safety and security procedures</i>	10	20	-	5
PC7. comply with safety and security policies and procedures	-	-	-	-
PC8. use appropriate safety gears like headgear, masks, gloves and other accessories as mentioned in the guidelines, while carrying out work	-	-	-	-
PC9. report any identified breaches/ incidents/ accidents to the designated person	-	-	-	-
PC10. segregate and store sample/ chemicals/ waste material as per 5S system and SOP	-	-	-	-
PC11. adhere to storage and handling guidelines for hazardous material as per MSDS	-	-	-	-
PC12. take preventive actions against hazards in laboratory by following the safety instructions/guidelines as per MSDS and inform the concerned authority for the same	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. perform quenching of waste/unused and expired reagents and chemicals using environment sustainable methods under supervision of lab in charge and EHS personnel	-	-	-	-
PC14. complete training records with accuracy for all the attended safety drills and training	-	-	-	-
<i>Follow emergency procedures</i>	10	15	-	5
PC15. inform the concerned designated person immediately about every unsafe act/ incident (spill, fall, injury, toxic inhale, fire or explosion) for suitable action	-	-	-	-
PC16. follow emergency procedures efficiently	-	-	-	-
PC17. raise alarm and warn other people who may be affected by hazard/unsafe incident	-	-	-	-
NOS Total	30	55	-	15

National Occupational Standards (NOS) Parameters

NOS Code	LFS/N0101
NOS Name	Follow Environment, health and safety guidelines in GMP/GLP controlled areas and laboratory
Sector	Life Sciences
Sub-Sector	Pharmaceutical, Bio Pharmaceutical, Contract Research
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

LFS/N0561: Coordinate with chemist/researchers and cross-functional teams

Description

This NOS is about a Lab Technician coordinating with supervisor and other cross-functional teams to perform various activities

Scope

The scope covers the following :

- Coordination with chemist/ researchers
- Coordination with cross-functional teams
- Sensitivity towards all genders and people with disability

Elements and Performance Criteria

Coordination with chemist/ researchers

To be competent, the user/individual on the job must be able to:

- PC1.** work as per the instructions given by chemist/ researcher
- PC2.** communicate to chemist/ researcher about test operations running in a laboratory
- PC3.** inform about the available stock in the lab to chemist / researcher
- PC4.** intimate chemist/ research about required repairs and maintenance of equipment
- PC5.** communicate the deviations in the wet lab / scale up lab work to chemist/ researcher
- PC6.** inform chemist/researcher about potential hazards or expected test disruptions
- PC7.** handover complete daily work report to reporting manager
- PC8.** assist chemist/researchers in the cleaning validation of the equipment in the presence of designated authorized personnel and QA inspector in a GMP/ NABL compliance lab

Coordination with Cross-functional Teams

To be competent, the user/individual on the job must be able to:

- PC9.** coordinate with store supervisor to fulfil the stock of chemicals/ equipment/ instruments/ machines in the laboratory
- PC10.** coordinate with the maintenance team to fulfill lab maintenance requirements
- PC11.** coordinate with Environment, Health and Safety team for quenching activities and in case of accidental hazard

Sensitivity towards all genders and people with disability

To be competent, the user/individual on the job must be able to:

- PC12.** respect all the genders, religions, and caste
- PC13.** empathize with people with disability
- PC14.** offer support or help to a person with disability only when asked
- PC15.** adhere to the guidelines laid in POSH Act
- PC16.** report any violation of prevention of sexual harassment (POSH) rules immediately to the POSH committee

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the company's policies on the preferred language of communication, reporting and escalation policy
- KU2.** the reporting structure of the organization
- KU3.** types of audits in the life sciences sector
- KU4.** the guidelines for Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal Act)
- KU5.** the methods of workplace communication
- KU6.** the methods of team coordination
- KU7.** the types of possible disabilities among people with disability (PwD)
- KU8.** the challenges faced by PwD
- KU9.** the importance of displaying empathy towards PwD
- KU10.** the right way to use the laws acts, and provisions defined for PwD by the statutory bodies
- KU11.** the importance of awareness of gender sensitization and prevention of sexual harassment (POSH) act
- KU12.** the importance of respect for all religion, caste, and culture
- KU13.** types of maintenance in the lab and concerned stakeholders for coordination
- KU14.** concerned stakeholders for cleaning validation and stock replenishment

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** use written communication skills to record and report the incidences accurately as per SOP and GMP guidelines in the English language
- GS2.** use written communication skills to maintain proper and concise records as per given format and in compliance with ALCOA principle
- GS3.** use reading and comprehension skills for interpreting various coding systems and to read instructions, guidelines, procedures, rules, and signage to interpret the procedure to be followed
- GS4.** use listening skills to interpret the instructions and procedures to be followed
- GS5.** use verbal communication skills to interact with teammates, researchers, chemists, lab in charge and cross functional teams for coordination and to communicate confidential and sensitive information discretely to the authorized person
- GS6.** use team-building skills during interaction with teammates and while managing the difficult/stressful or emotional situations at work
- GS7.** apply problem-solving skills to find solutions for workflow-related difficulties
- GS8.** apply planning and organizing skills to plan and organize tools and material required to fulfil work requirements
- GS9.** apply critical thinking skills to analyze and identify when to report an issue/concern to the lab in charge and when to deal with a colleague individually, depending on the type of concern

- GS10.** apply customer centricity while responding to auditors, customer representatives and QA personnel
- GS11.** apply decision-making skills to make balanced judgments within the authority while dealing with daily work-life situations with clear choices and written instructions

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Coordination with chemist/ researchers</i>	15	25	-	5
PC1. work as per the instructions given by chemist/ researcher	-	-	-	-
PC2. communicate to chemist/ researcher about test operations running in a laboratory	-	-	-	-
PC3. inform about the available stock in the lab to chemist / researcher	-	-	-	-
PC4. intimate chemist/ research about required repairs and maintenance of equipment	-	-	-	-
PC5. communicate the deviations in the wet lab / scale up lab work to chemist/ researcher	-	-	-	-
PC6. inform chemist/researcher about potential hazards or expected test disruptions	-	-	-	-
PC7. handover complete daily work report to reporting manager	-	-	-	-
PC8. assist chemist/researchers in the cleaning validation of the equipment in the presence of designated authorized personnel and QA inspector in a GMP/ NABL compliance lab	-	-	-	-
<i>Coordination with Cross-functional Teams</i>	15	20	-	5
PC9. coordinate with store supervisor to fulfil the stock of chemicals/ equipment/ instruments/ machines in the laboratory	-	-	-	-
PC10. coordinate with the maintenance team to fulfill lab maintenance requirements	-	-	-	-
PC11. coordinate with Environment, Health and Safety team for quenching activities and in case of accidental hazard	-	-	-	-
<i>Sensitivity towards all genders and people with disability</i>	5	10	-	-
PC12. respect all the genders, religions, and caste	-	-	-	-
PC13. empathize with people with disability	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. offer support or help to a person with disability only when asked	-	-	-	-
PC15. adhere to the guidelines laid in POSH Act	-	-	-	-
PC16. report any violation of prevention of sexual harassment (POSH) rules immediately to the POSH committee	-	-	-	-
NOS Total	35	55	-	10

National Occupational Standards (NOS) Parameters

NOS Code	LFS/N0561
NOS Name	Coordinate with chemist/researchers and cross-functional teams
Sector	Life Sciences
Sub-Sector	Pharmaceutical, Bio Pharmaceutical, Contract Research
Occupation	Research and Development
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

LFS/N0530: Assist the QC/Research team in performing the wet-lab experiments

Description

This NOS unit is about assisting the QC/Research team members while performing the experiments and analysis in a wet lab in adherence to safety standards.

Scope

The scope covers the following :

- Assist in setting up the experiment during wet lab analysis

Elements and Performance Criteria

Assist in setting up the experiment during wet lab analysis

To be competent, the user/individual on the job must be able to:

- PC1.** setup standard laboratory equipment and make the reagents, glassware and other specific equipment available for the experiment
- PC2.** prepare specimens, samples, mobile phase, standards and stock solutions as per the guidelines and instructions required for the experiment
- PC3.** assist in laboratory tests in order to produce reliable and precise data to support scientific investigations
- PC4.** follow protocols and procedures while performing experiments in compliance with various safety guidelines
- PC5.** maintain and repair equipment and laboratory apparatus as a part of routine activities
- PC6.** ensure that the laboratory is well-stocked and resourced
- PC7.** assist chemist/ researchers in monitoring batch fermentation process

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the organizational coding system of materials, compounds and company manual
- KU2.** the chemicals used in the industry and their function
- KU3.** the relevant quality management systems (ISO-9000, ISO-14001, OHSAS-18000), good laboratory and manufacturing practices
- KU4.** basic concepts of analytical tests performed in a wet lab and chemical calculations
- KU5.** material disposal procedure, its importance, and implications of not following procedure
- KU6.** importance of identifying non-conforming products and storage of the same
- KU7.** risk and impact of not following defined procedures/work instructions during experiment setup and solution preparation
- KU8.** escalation matrix for reporting identified issues, hazards, and breakage

- KU9.** health, safety, and environment guidelines, legislation and regulations as applicable and impact of non-conformance/poor practices
- KU10.** selection and use of personal protection equipment (which protective equipment to be used and how)
- KU11.** potential hazards, actions to minimize the same and basic disaster management
- KU12.** basic concepts of chemistry, measuring units and simple chemical calculation and principles of the test

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** use written communication skills to maintain proper and concise records as per given format and compliant with ALCOA principle
- GS2.** use reading and comprehension skills to interpret the various coding systems and to read instructions, guidelines, procedures, rules, and signage to understand the procedure to be followed
- GS3.** use verbal communication skills to interact with teammates, researchers, chemists, lab in charge and cross functional teams
- GS4.** apply problem-solving skills to find solutions for workflow-related difficulties using concepts of basic sciences (chemistry), mathematics, statistics
- GS5.** plan and organize tools and material required to fulfil own work requirements in a timely manner
- GS6.** apply critical thinking skills to analyze and identify when to report an issue/concern to the lab in charge and when to deal with a colleague individually, depending on the type of concern
- GS7.** apply customer centricity to remain compliant with data integrity rules, GMP/GLP guidelines and to evaluate impact of wrongdoings
- GS8.** apply decision-making skills to make balanced judgments within the authority while dealing with daily work-life situations with clear choices and written instruction

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Assist in setting up the experiment during wet lab analysis</i>	35	55	-	10
PC1. setup standard laboratory equipment and make the reagents, glassware and other specific equipment available for the experiment	-	-	-	-
PC2. prepare specimens, samples, mobile phase, standards and stock solutions as per the guidelines and instructions required for the experiment	-	-	-	-
PC3. assist in laboratory tests in order to produce reliable and precise data to support scientific investigations	-	-	-	-
PC4. follow protocols and procedures while performing experiments in compliance with various safety guidelines	-	-	-	-
PC5. maintain and repair equipment and laboratory apparatus as a part of routine activities	-	-	-	-
PC6. ensure that the laboratory is well-stocked and resourced	-	-	-	-
PC7. assist chemist/ researchers in monitoring batch fermentation process	-	-	-	-
NOS Total	35	55	-	10

National Occupational Standards (NOS) Parameters

NOS Code	LFS/N0530
NOS Name	Assist the QC/Research team in performing the wet-lab experiments
Sector	Life Sciences
Sub-Sector	Pharmaceutical, Bio Pharmaceutical, Contract Research
Occupation	Research and Development
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

LFS/N0562: Perform scale-up operations under the supervision of researchers in the synthesis R&D/ kilo lab

Description

This NOS unit is about a lab technician performing the various scale-up operations in adherence to safety standards

Scope

The scope covers the following :

- Scale-up Operations
- Storage and disposal of bulk chemicals

Elements and Performance Criteria

Scale-up Operations

To be competent, the user/individual on the job must be able to:

- PC1.** ensure not to enter the scale-up lab without wearing the appropriate PPE
- PC2.** setup instruments and equipment required for scale-up operations under the supervision of researchers
- PC3.** perform scale-up operations of various compounds, solvents, and chemicals under the supervision of researchers using different techniques like distillation of solvents, filtration of compounds, and crystallization by following Standard Test Protocol (STP)
- PC4.** maintain the reaction conditions like temperature, pressure, etc. as instructed by researchers
- PC5.** operate the reactors for scale-up reactions
- PC6.** perform routine maintenance of reactors in scale-up/ kilo lab
- PC7.** wash reactors and large-sized glassware under the supervision of researchers

Storage and disposal of bulk chemicals

To be competent, the user/individual on the job must be able to:

- PC8.** handle and store a large quantity of solvent containers and material in a lab safely
- PC9.** manage the material logs for stored solvents, chemicals, and glassware
- PC10.** perform quenching of the bulk chemical wastages under the supervision of researchers and EHS personnel

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** types of pharmaceutical labs and their functions
- KU2.** about life sciences scale-up lab and the instrument/equipment used in it
- KU3.** type of PPEs used in a scale-up lab and their selection and use

- KU4.** properties and handling guidelines of chemicals as per Material Safety Data Sheet (MSDS) and the hazards caused by them
- KU5.** the techniques, principles, and working of instruments used in a scale-up lab
- KU6.** essential GLP and GMP guidelines
- KU7.** types of biohazards and their corrective and preventive actions
- KU8.** washing methods of large-sized glassware and different types of reactors
- KU9.** procedures for reporting any unresolved issues and hazards
- KU10.** procedures to report incidents where standard operating procedures are not followed

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** use written communication skills to record accurately, legibly and clearly every information required to be reported as per SOP and GMP guidelines in English language
- GS2.** use written communication skills to maintain proper and concise records as per given format and in compliance with ALCOA principle
- GS3.** use reading and comprehension skills to interpret the various coding systems and to read instructions, guidelines, procedures, rules, and signage to understand the procedure to be followed
- GS4.** use verbal communication skills to interact with teammates, researchers, chemists, lab in charge and cross functional teams
- GS5.** apply problem-solving skills to find solutions for workflow-related difficulties using concepts of basic sciences (chemistry), mathematics, statistics
- GS6.** apply planning and organizing skills to plan and organize tools and material required to fulfil own work requirements in timely manner
- GS7.** apply critical thinking skills to analyze and identify when to report an issue/concern to the lab in charge and when to deal with a colleague individually, depending on the type of concern
- GS8.** apply customer centricity to remain compliant with data integrity rules, GMP/GLP guidelines and to evaluate impact of wrongdoings
- GS9.** apply decision making skills to make balanced judgments within the authority while dealing with daily work-life situations with clear choices and written instruction

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Scale-up Operations</i>	20	30	-	10
PC1. ensure not to enter the scale-up lab without wearing the appropriate PPE	-	-	-	-
PC2. setup instruments and equipment required for scale-up operations under the supervision of researchers	-	-	-	-
PC3. perform scale-up operations of various compounds, solvents, and chemicals under the supervision of researchers using different techniques like distillation of solvents, filtration of compounds, and crystallization by following Standard Test Protocol (STP)	-	-	-	-
PC4. maintain the reaction conditions like temperature, pressure, etc. as instructed by researchers	-	-	-	-
PC5. operate the reactors for scale-up reactions	-	-	-	-
PC6. perform routine maintenance of reactors in scale-up/ kilo lab	-	-	-	-
PC7. wash reactors and large-sized glassware under the supervision of researchers	-	-	-	-
<i>Storage and disposal of bulk chemicals</i>	15	25	-	-
PC8. handle and store a large quantity of solvent containers and material in a lab safely	-	-	-	-
PC9. manage the material logs for stored solvents, chemicals, and glassware	-	-	-	-
PC10. perform quenching of the bulk chemical wastages under the supervision of researchers and EHS personnel	-	-	-	-
NOS Total	35	55	-	10

National Occupational Standards (NOS) Parameters

NOS Code	LFS/N0562
NOS Name	Perform scale-up operations under the supervision of researchers in the synthesis R&D/ kilo lab
Sector	Life Sciences
Sub-Sector	Pharmaceutical, Bio Pharmaceutical, Contract Research
Occupation	Research and Development
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by Life Sciences Sector Skill Development Council (LSSSDC)
2. Each Element will be assigned marks proportional to its importance in NOS. LSSSDC will also lay down the proportion of marks for Theory, Practical, Project, and Viva for each Element.
3. The assessment for the theory part will be based on the knowledge bank of questions created by the LSSSDC.
4. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
5. LSSSDC as assessment and awarding body will create unique evaluations for each assessment component i.e. theory, practical, project and viva for every student at each examination/training center based on this criterion.
6. Wherever any assessment component is not applicable/ feasible, the balance assessment components will be used to assess the candidate and accordingly the total marks will be calculated only for the applied assessment component.
7. To pass the Qualification Pack, every trainee should score a minimum of 50% of marks in each NOS to successfully clear the assessment. In the case of a Govt funded program, the program guidelines will be overarching on the pass percentage rules.
8. In case of unsuccessful completion, the trainee may seek re-assessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 50

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LFS/N0531.Carry out washing, processing, and drying of the glassware/plastic ware for experimentation	25	40	20	15	100	20
LFS/N0533.Perform storage and handling of chemicals/reagents/solutions by maintaining laboratory records in adherence to safety guidelines	35	55	-	10	100	20
LFS/N0109.Ensure hygienic, clean and contamination-free work area and hoods in laboratory	30	55	0	15	100	10
LFS/N0101.Follow Environment, health and safety guidelines in GMP/GLP controlled areas and laboratory	30	55	0	15	100	10
LFS/N0561.Coordinate with chemist/researchers and cross-functional teams	35	55	0	10	100	15
Total	155	260	0	65	500	75

Elective: 1 Wet Lab

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LFS/N0530.Assist the QC team/ Research team in performing the experiments and analysis in a wet lab	35	55	-	10	100	25
Total	35	55	0	10	100	25

Elective: 2 Scale-up or Kilo Lab

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LFS/N0562.Perform Scale-up operations under the supervision of researchers in the Synthesis R&D/Kilo lab	35	55	-	10	100	25
Total	35	55	0	10	100	25

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
SOP	Standard Operating Procedures
OHSAS	International Occupational Health And Safety Management System
ISO	International Organization for Standardization
CIP	Cleaning In Process
SIP	Sterilisation In Process
SOP	standard operating procedure
ALCOA	Attributable, Legible, Contemporaneous, Original and Accurate
GLP	Good Laboratory Practices
GMP	Good Manufacturing Practices
GCP	Good Clinical Practices
NABL	National Accreditation Board for Laboratories
WHO	World Health Organization
SOP	Standard Operating Procedures
ICH	International Council for Harmonisation
ISO	International Organization for Standardization
OHSAS	Occupational Health and Safety Assessment Series
ICH	International Council for Harmonisation
CFR	Code of Federal Regulations
GLP	Good Laboratory Practices
GMP	Good Manufacturing Practices
GCP	Good Clinical Practices

NABL	National Accreditation Board for Laboratories
WHO	World Health Organization
MSDS	Material Safety Data Sheet
ALCOA	Attributable, Legible, Contemporaneous, Original and Accurate
PPE	Personal Protective Equipment
MSDS	Material Safety Data Sheet
GLP	Good Laboratory Practice
EHS	Environment Health and Safety
WHO	World Health Organization
GMP	Good Manufacturing Practice
GLP	Good Laboratory Practice
PPE	Personal Protective Equipment
MSDS	Material Safety Data Sheet
GLP	Good Laboratory Practice
EHS	Environment Health and Safety
WHO	World Health Organization
GMP	Good Manufacturing Practice
GLP	Good Laboratory Practice
WHO	World Health Organization
ICH	Council for Harmonisation
GMP	Good Manufacturing Practice
GLP	Good Laboratory Practice
MSDS	Material Safety Data Sheet
EHS	Environment Health and Safety
ALCOA	Attributable, Legible, Contemporaneous, Original and Accurate
SOP	Standard Operating Procedure

QC	Quality Control
QA	Quality Assurance
GMP	Good Manufacturing Practice
NABL	National Accreditation Board for Laboratories
POSH	Prevention of Sexual Harassment
ALCOA	Attributable, Legible, Contemporaneous, Original and Accurate
PwD	Persons with Disabilities
SOP	Standard Operating Procedure
QC	Quality Control
PH	Potential of Hydrogen
SOP	Standard Operating Procedure
OHSAS	Occupational Health and Safety Assessment Series
ISO	International Organization for Standardization
GMP	Good Manufacturing Practice
ALCOA	Attributable, Legible, Contemporaneous, Original and Accurate
GLP	Good Laboratory Practice
PPE	Personal Protective Equipment
STP	Standard Test Protocol
EHS	Environment Health and Safety
PPE	Personal Protective Equipment
MSDS	Material Safety Data Sheet
GLP	Good Laboratory Practice
GMP	Good Manufacturing Practice
SOP	Standard Operating Procedure
ALCOA	Attributable, Legible, Contemporaneous, Original and Accurate

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standard	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.

Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (K)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.