Approved in 23th NSQC, Dated: 22 September, 2020

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE Name and address of submitting body:

Life Sciences Sector Skill Development Council

14, Palam Marg, Rear 2rd Floor, Vasant Vihar, New Delhi, PIN 110057

Phone: +91 11 41042407/ 408, E-mail: info@lsssdc.in

Name and contact details of individual dealing with the submission

Name: Mr. Anshul Saxena

Position in the organisation: Senior Director- Standards & Training Advisory

Address if different from above:

Same as above

Tel number(s): + 91 11 41042407/ 408, +91 9650433002

E-mail address: anshul.saxena@lsssdc.in

List of documents submitted in support of the Qualifications File

- 1 Qualifications Pack
- 2 LSSSDC Protocol for Accreditation of Assessment Agencies and Assessment Guidelines
- 3 Minutes of meeting of Governing Body
 - Composition of National Committee of NOS
- 4 NSDC Sector Skill Gap Report for Life Sciences Sector is available at http://nsdcindia.org/sites/default/files/files/Pharmaceuticals.pdf
- 5 Occupational Map and Career Progression Map
- 6 List of companies and Industry associations participated in the development of these qualification packs
- 7 List of QP/NOS validating companies

Model Curriculum (attached as annexure) including the following:

- · Indicative list of tools/equipment to conduct the training
- Trainers qualification
- Lesson Plan

Approved in 23th NSQC, Dated: 22 September, 2020

• Distribution of training duration into theory/skill practical/Project and Viva component

SUMMARY

1	Qualification Title	Effluent Treatment Plant Operator – Life Sciences (Pharma, Bio-Pharma & Research)
2	Qualification Code, if any	LFS/Q0220
3	NCO code and occupation	NCO 2015/3132.0400
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term)	Short term with or without apprenticeship
5	Body/bodies which will award the qualification	Life Sciences Sector Skill Development Council
6	Body which will accredit providers to offer courses leading to the qualification	Life Sciences Sector Skill Development Council
7	Whether accreditation/affiliation norms are already in place or not, if applicable (if yes, attach a copy)	Yes, attached the copy as annexure 1
8	Occupation(s) to which the qualification gives access	Manufacturing
9	Job description of the occupation	Effluent Treatment Plant operator also known as ETP operator, is responsible for operating the machines and carry out waste disposal activities. This person provides support to Incharge and EHS team to ensure effluent treatment and activities are carried out while adhering to correct procedures, regulations, health and safety guidelines. S/he is responsible to monitor quantity and quality of effluent streams. The individual is also responsible for site inspection for environmental monitoring. He/She maintains the statutory records for quantity, quality and operating parameters for ETP operations.

NSQF QUALIFICATION FILE
Approved in 23th NSQC, Dated: 22 September, 2020

10	Licensing requirements	Not applicable		
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)	Nil		
12	Level of the qualification in the NSQF	4		
13	Anticipated volume of training/learning required to complete the qualification	342 hours excluding recommended OJT hours		
14	Indicative list of training tools required to deliver this qualification	Attached as annexure 2		
15	Entry requirements and/or recommendations and minimum age	12 th Class preferably with Science Subject / ITI 18 Years		
16	Progression from the qualification (Please	Upward progression:		
	show Professional and academic progression)	1. Executive- EHS (Level 5)		
		Horizontal progression:		
		Possible horizontal progression across manufacturing and R&D based sectors as well as in the Municipal Corporation and Gram Panchayat as Wastewater Treatment Plant Technician.		
17	Arrangements for the Recognition of Prior Learning (RPL)	The process to award the qualification via RPL mode and detailed methodology is given in point No.22		
18	International comparability Whether known (research evidence to be provided)	While preparing the NOSs, detailed secondary desk research was conducted. The European, South African and Australian NOSs were referred to. The relevant International NOSs for the job role are listed below for reference: UK NOS •COGLS201 Follow health and safety procedures in life sciences		

		CEMENIO 24 Comming out
		•SEMEMI2-31 Carrying out
		maintenance on environmental
		control equipment
		•COGWT5 Apply a water
		treatment program for effluent
		treatment systems
		•COGLS215 Carry out sampling
		operations in life sciences
		 COGLS301 Maintain health
		and safety in life sciences
		•COGPIO1.3 prepare process
		materials
		•COGPIO2.15 identify and deal
		with industry hazards
		•COGPIO3.2 control
		emergencies
		•SFHPHARM23 check
		documentation and materials
		Australia NOS
		•Communicate workplace
		information
		•Participate in work teams and
		groups
		•Apply Good Manufacturing
		Practice procedures
		Participate in OHS processes
		•Handle dangerous
		•
		goods/hazardous substances
		South Africa NOS
		•Act in accordance with ethical
		and legal codes of
		pharmaceutical representation
40	Data Calana Harris and Helica	and the laws of the country
19	Date of planned review of the qualification	04/00/0004
		31/03/2024

NOS Version

NSQF Level-4

No. 1

20 Formal structure of the qualification **Mandatory components** NOS and Theory Practic On-the-On-the-Job Total **Module Details Duratio** Job Training **Duration** al Duratio **Training Duration** n Duration (Recommend n (Mandator ed) y) Bridge 04:00 00:00 00:00 00:00 04:00 Introduction of 04:00 00:00 00:00 00:00 04:00 Life Sciences industry and applicable regulations SGJ/N6601 -46:00 76:00 00:00 00:00 122:00 **Operate the Wastewater Treatment Plant NOS Version** No. 1 **NSQF** Level-4 Introduction of 08:00 08:00 00:00 00:00 16:00 Wastewater Treatment plant industry Types of 08:00 08:00 00:00 00:00 16:00 Wastewater and its Treatment Wastewater 06:00 12:00 00:00 00:00 18:00 treatment plant and its components Wastewater 12:00 24:00 00:00 00:00 36:00 Treatment **Process** 12:00 24:00 00:00 Operate 00:00 36:00 Wastewater **Treatment Plant** 30:00 42:00 SGJ/N6602 -12:00 00:00 00:00 **Monitor and Maintain** Wastewater **Treatment Plant**

Monitoring and Maintenance of Wastewater Treatment Plant	12:00	30:00	00:00	00:00	42:00
SGJ/N6605 – Work Safety at Wastewater treatment plant NOS Version No. 1 NSQF Level-4	12:00	24:00	00:00	00:00	36:00
Work Safety at Wastewater Treatment Plant	12:00	24:00	00:00	00:00	36:00
LFS/N0256 – Carry out GMP- critical (Good Manufacturing Practices) activities and their documentation NOS Version No. 1 NSQF Level-4	14:00	28:00	00:00	00:00	42:00
ETP operations for compliance with Good Manufacturing Practices	10:00	20:00	00:00	00:00	30:00
Reporting & Documentation for regulatory compliance	04:00	08:00	00:00	00:00	12:00
LFS/N0253 – Coordinate and communicate with EHS Supervisor, teams and auditors NOS Version No. 1 NSQF Level-4	14:00	22:00	00:00	00:00	36:00
Coordination activities for ETP Operator	08:00	16:00	00:00	00:00	24:00

Approved in 23th NSQC, Dated: 22 September, 2020

Sensitivity towards genders and people with disability	06:00	06:00	00:00	00:00	12:00
Apprenticeship Training	00:00	00:00	00:00	00:00	500:00
Total Duration					782:00

Option 1: Additional Skill in English Language

NOS and Module Details	Theory Duratio n	Practic al Duratio n	On-the- Job Training Duration (Mandator y)	On-the-Job Training Duration (Recommen ded)	Total Durati on
MEP/N9993 – Use basic English for employability – Variant III NOS Version No.1 NSQF Level-4	20:00	40:00	00:00	00:00	60:00
Greeti ngs	00:30	01:00	00:00	00:00	01:30
Introduction to self	00:30	01:00	00:00	00:00	01:30
Family and Friends	00:30	01:00	00:00	00:00	01:30
Human Body	00:30	01:00	00:00	00:00	01:30
Colours	00:30	01:00	00:00	00:00	01:30
Home and Neighbourhood	00:30	01:00	00:00	00:00	01:30
Time and calender	00:30	01:00	00:00	00:00	01:30
Weather and Seasons	00:30	01:00	00:00	00:00	01:30
Clothes	00:30	01:00	00:00	00:00	01:30
Food	00:30	01:00	00:00	00:00	01:30
Directions	00:30	01:00	00:00	00:00	01:30
Market	00:30	01:00	00:00	00:00	01:30
Everyday Objects	00:30	01:00	00:00	00:00	01:30
Hobbies	00:30	01:00	00:00	00:00	01:30
Transport	00:30	01:00	00:00	00:00	01:30
Feelings and Emotions	00:30	01:00	00:00	00:00	01:30
Travel	00:30	01:00	00:00	00:00	01:30
Profession	00:30	01:00	00:00	00:00	01:30
Workplace	00:30	01:00	00:00	00:00	01:30
Planning Ahead	00:30	01:00	00:00	00:00	01:30
Entertainment	00:30	01:00	00:00	00:00	01:30
Festivals	00:30	01:00	00:00	00:00	01:30

Approved in 23th NSQC, Dated: 22 September, 2020

Sports	00:30	01:00	00:00	00:00	01:3
Talking on the	00:30	01:00	00:00	00:00	01:3
telephone					
Etiquette in Public	00:30	01:00	00:00	00:00	01:3
Places					
Likes and Dislikes	00:30	01:00	00:00	00:00	01:3
Talking about the Past	00:30	01:00	00:00	00:00	01:3
Hygiene and	00:30	01:00	00:00	00:00	01:3
Cleanliness					
Environment	00:30	01:00	00:00	00:00	01:3
Technology	00:30	01:00	00:00	00:00	01:3
Paragraph Writing	00:30	01:00	00:00	00:00	01:3
Taking Notes	00:30	01:00	00:00	00:00	01:3
Letter Writing	00:30	01:00	00:00	00:00	01:3
Email Etiquette	00:30	01:00	00:00	00:00	01:3
Commonly Asked	00:30	01:00	00:00	00:00	01:3
Questions in an					
Interview					
Asking Questions in an Interview	00:30	01:00	00:00	00:00	01:3
Mock Interview	00:30	01:00	00:00	00:00	01:3
Writing a resume	00:30	01:00	00:00	00:00	01:3
Pre and Post interview	00:30	01:00	00:00	00:00	01:3
communication					
Total Duration	20:00	40:00	00:00	00:00	60:0

SECTION 1 ASSESSMENT

21 Body/Bodies which will carry out assessment:

Following assessment agencies will carry out assessments:

- 1. Induslynk Training Services Pvt. Ltd.- Mercer- Mettl , Plot Number 85, Sector 44, Gurugram, India
- 2. Aspiring Minds Assessment Pvt. Ltd.- 323, Udyog Vihar, Phase 2, Gurugram, Haryana
- 3. CoCubes Technologies Pvt. Ltd.- 1205-1206, 12th Floor, Welldone Tech Park, Sohna Road, Gurugram 122002, Haryana
- 4. Glocal Thinkers Pvt. Ltd.- 3704, DLF Phase IV, Near Galleria Market, Gurugram 12200. Haryana
- Life Sciences Sector Skill Development Council, 14, Palam Marg, 2nd Floor Rear, Vasar Vihar, New Delhi- 110057, India

22 How will RPL assessment be managed and who will carry it out?

Assessment process for RPL programs (Candidates with experience in the occupation for informally trained and employed trainees):

- Every RPL batch is uploaded on Skill Development Management System (SDM managed by National Skill Development Corporation (NSDC). SDMS reflects the proposed date of assessment for the batch. The batch is uploaded on SDMS by RPL projection implementation agency.
- LSSSDC conducts Assessments via its empaneled Assessment Agencies and assigns to batch to an assessment agency pre-notified with NSQC for the job role.
- Assessment agency ensures the availability of required infrastructure, tools for tassessment.
- Assessments for RPL candidates are conducted in following two modes:
 - A) Theory and Skill Practical on a fully digital platform.
 - B) Theory part digital and practical part through actual assessor observation.
- The authenticity of Trainee's identity and eligibility is verified by project implementati agency by verifying the ID proof documents (any document issued by GOI, such Aadhaar Card, Driving License, Passport, election card etc.) and experience proof (indus endorsement, experience letters)
- Assessment agency collects evidences of the assessment in best possible way (video pictures, assessment logs etc.)
- The assessment agency after processing the results and putting them in standard form hands over to LSSSDC within 7 days from the date of assessment.
- LSSSDC validates the assessment results and announces the result on SDMS within days of assessment date.
- Passed candidates are provided with qualification certificate.

Assessment tools: For the Training assessment, the assessment instrument development is done by the selected assessment body with close monitoring and support of LSSSDC at every stage.

Digital Written test for knowledge assessment:

<u>Scope</u> – Is used to test the knowledge component of the Qualification Pack.

Tools - Computer or tab based online or offline.

Approved in 23th NSQC, Dated: 22 September, 2020

<u>Method</u> – objective type questions, match the columns, fill in the blanks, tick the odd man out, choose the correct option, choose the best answer, True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-based responses.

<u>Analysis</u> – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of t areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.

Digital Written test for skill assessment

<u>Scope</u> – Is used to test primarily the Skill component of the QP. Trainee's expertise in handling and managing the situation is tested.

<u>Tools</u> – computer or tab based online or offline questions.

<u>Method</u> – A situation is narrated or created in the question posed to the trainee and he is aske objective type questions to select the correct reaction to the situation. The selected situations are based on real situations.

<u>Analysis</u> – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks gives the clear idea of the area of improvement or expertise of the trainee. While a consolidated mark gives the overall rating the trainee.

Following assessment agencies will carry out assessments:

- 1. Induslynk Training Services Pvt. Ltd.- Mercer- Mettl , Plot Number 85, Sector 44, Gurugram, India
- 2. Aspiring Minds Assessment Pvt. Ltd.- 323, Udyog Vihar, Phase 2, Gurugram, Haryana
- 3. CoCubes Technologies Pvt. Ltd.- 1205-1206, 12th Floor, Welldone Tech Park, Sohna Road, Gurugram 122002, Haryana
- Glocal Thinkers Pvt. Ltd.- 3704, DLF Phase IV, Near Galleria Market, Gurugram 12200. Haryana
- Life Sciences Sector Skill Development Council, 14, Palam Marg, 2nd Floor Rear, Vasar Vihar, New Delhi- 110057, India
- Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.

Assessment Agencies: An assessment agency is selected based on

- Prior experience and understanding of Life Sciences or similar sector.
- Experience in conducting assessments for similar job roles.
- Manpower and Technical capabilities.
- Geographical reach
- Existing Network in the Life Sciences Sector
- Agency's internal policies to maintain Standards, Quality & professional Integrity
- Agency's policy in assessor management

Assessment development: The assessment development is done with close monitoring and under supervision of LSSSDC at every stage.

Steps for assessment development:

Approved in 23th NSQC, Dated: 22 September, 2020

- Selection of assessment tool(s) is done as per the assessment criteria prescribed in Qualification Pack.
- For Effluent Treatment plant operator assessment a blue print of the question paper, is part of assessment tool for training.
 Development of law out of Question paper is such that the entire PCs (Performance)
- Development of lay-out of Question paper is such that the entire PCs (Performance Criteria) of that QP are covered.
- Score per question maps with the weightage given to that PC, in the assessment criteriand the level of difficulty of the question.
 An expert from industry is selected who is called "Subject Matter Expert" (SME). This
- An expert from industry is selected who is called "Subject Matter Expert" (SME). This SME must have over 13-15 years of experience in the industry in manufacturing occupation.
- SME is screened and approved by LSSSDC. He is the oriented by both LSSSDC and Assessment agency on – creating question Bank, level of questions, end desired outcome of the assessment.

Assessor: The Assessors are engaged to conduct the assessments. Assessor guidelines are followed as below:

		Asses	ssor Prerequisite	es		
Minimum Educational	-		ant Industry ence	Trainir Experi	Remark	
Qualification <select 12<sup="" as="" educational="" minimum="" requirements,="" such="" the="">th Pass, Graduate or NSQF certified.></select>	areas of specialization that are desirable.>	Years	Specialization	Years	Specialization	
Graduate in Sciences	Environmental Sciences	5	Effluent Treatment Plant operations	1	On the job assessment/ Training experience/ Vocational assessment/ Academic assessment	
Post Graduate in Sciences	Environmental Sciences	3	Effluent Treatment Plant operations Or EHS operations in	1	On the job assessment/ Training experience/ Vocational assessment/ Academic	

assessment

Approved in 23th NSQC, Dated: 22 September, 2020

plant					Manufacturing plant			
-------	--	--	--	--	---------------------	--	--	--

Assessor Certification					
Domain Certification	Platform Certification				
Effluent Treatment Plant Operator- Life Sciences (Pharma, Bio-Pharma & Research) Level 4 (LFS/Q02XX)	Assessor Level 5 (MEP/Q2701)				

Assessment process for fresh skill development programs (Short term without apprenticeship):

- Every fresh batch is uploaded on Skill Development Management System (SDM managed by National Skill Development Corporation (NSDC). SDMS reflects the St date, end date of the training and date of assessment for the batch. The batch is upload on SDMS by Vocational Training Centre.
- LSSSDC conducts Assessments via its empaneled Assessment Agencies and assigns t batch to an assessment agency pre-notified with NSQC for the job role.
- Assessment agency ensures the availability of required infrastructure, tools for tassessment.
- Assessments for Fresh candidates are conducted in mode of Theory and Viva for S Practical. Skill Viva is conducted by an Assessor.
- In case an assessor is involved in the assessment methodology, the trainees are schedul
 in such a way that an assessor shall not assess more than 30 candidates in a day.
- Assessor and proctor from Assessment agency are present on the day of assessment manage the process at assessment location.
- The assessor carry Aadhaar card and which has been pre informed to the vocation training center.
- Assessor ensures authenticity of Trainee's identity by verifying the documents (a
 document issued by GOI, such as Aadhar Card, Driving License, Passport, election ca
 etc.)
- Assessor collects evidences of the assessment in best possible way (videos, pictures et
- Proctor maintains the records of attendance, verified documents, and whatever oth evidence of assessment as applicable.
- Assessor maintains complete confidentiality of the score, compiles the data and docume and sends it to assessment agency.
- In cases where 100% digital assessment methodology is used, the above verifications a
 document collection and maintenance is done by the proctor.
- The assessment agency after processing the results and putting them in standard form hands over to LSSSDC within 7 days from the date of assessment.
- LSSSDC validates the assessment results and announces the result on SDMS within days of assessment date.
- Passed candidates are provided with qualification certificate.

Assessment tools: Assessment tools for a QP are decided based on composition of knowledge and skill in that QP. All assessments shall have at least two tools unless indicated otherwise. All assessments carry time allotment required per trainee, within which the assessment should be completed.

Digital Written test for knowledge assessment:

Approved in 23th NSQC, Dated: 22 September, 2020

Scope – Is used to test the knowledge component of the Qualification Pack.

Tools - Computer or tab based online or offline.

<u>Method</u> – objective type questions, match the columns, fill in the blanks, tick the odd man out, choose the correct option, choose the best answer, True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-based responses.

<u>Analysis</u> – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of t areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.

Digital Written test for skill assessment

<u>Scope</u> – Is used to test primarily the Skill component of the QP. Trainee's expertise in handling and managing the situation is tested.

<u>Tools</u> – computer or tab based online or offline questions.

<u>Method</u> – A situation is narrated or created in the question posed to the trainee and he is aske objective type questions to select the correct reaction to the situation. The selected situations are based on real situations.

<u>Analysis</u> – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks gives the clear idea of the area of improvement or expertise of the trainee. While a consolidated mark gives the overall rating the trainee.

Assessment process for Apprenticeship linked fresh skill development programs (Shorterm with apprenticeship):

The assessment for the Basic Training and On the Job Training will be conducted toward the end of the OJT duration.

Assessment Process:

The assessment will be in two parts as below:

Part 1: OJT Assessment

For OJT assessment the Industry nominated assessor will be assessing the candidates based on the OJT monitoring report submitted by Industry supervisor and Viva by the Industry nominated assessor

1.1 Industry nominated aassessor:

The Assessors are engaged to conduct the assessments by Industry. The selection takes place as follows

- Industry defines the criteria for profile of an assessor.
- Assessor is a person who is currently working in the same industry on same or higher journal role and has minimum 5-7 years of experience.
- Once selected, the assessor is oriented by Industry using LSSSDC guidelines on variou aspects of the assessment and management of assessment, such as
- QP and its background.
- Training on Assessment methodology and how to use Assessment tools. Scoring syste (as per the attached assessment guide)
- Maintain integrity at the assessment site.
- Crisis handling and support system available for the same.
- Scope of his authorities
- · Administrative responsibilities.
- Required documentation of Trainee credentials, mark sheet management.

Approved in 23th NSQC, Dated: 22 September, 2020

Confidentiality management.

1.2 Assessment Tool for OJT:

1.2.1 OJT Monitoring Report:

- As in Life Sciences Sector reproducing the evidence for assessment is not feasible due constraints like cost, confidentiality and controlled environment, every apprentice is required to record the evidences performed during the OJT and the same gets authorize by his/her supervisor.
- The evidence recording is done in a structured monitoring report, termed as OJT monitoring report.
- During the OJT, every trainee is required to fill the OJT monitoring report which is required to be signed by his/her supervisor.
- Towards the end of OJT period these reports are submitted with the HR department of company
- These duly submitted reports are then verified by an Industry nominated assessor for verification of evidence.

1.2.2 Viva:

Scope – Is used to test the knowledge and understanding and skills acquired during the OJT awell as to conform the OJT monitoring report.

Some personality traits and generic skills (such as – promptness, sharpness, communication skills, depth of knowledge, comprehension, presentation, patience etc) can also be tested required for the QP.

Tools – Direct dialogue between assessor and Trainee.

Method – Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions. Different questions are included to test relevant PCs from the QP

Analysis – Assessor draws a spectrum of ready answers to be expected from trainee. This reduces effect of subjectivity of the assessor. Comparative quality of trainees with in a batch o different institutes can be gauged.

1.3 Execution of OJT Assessment:

- HR department then hands over the individual OJT monitoring report with Industry nominated assessor and schedules an assessment meeting for each trainee
- Industry nominated assessor assesses each trainee based on OJT monitoring report, viva on each PC and attendance with each trainee towards the end of the OJT period.
- The OJT marks are compiled for each NOS by the Industry nominated assessor and submitted with HR department of company.
- The OJT assessment results are then sent to LSSSDC by HR department of company is a sealed envelope for compiling the assessment results.

Part 2: Basic Training Assessment

For Execution of the assessment for basic training, LSSSDC will be engaging more than one assessment agencies/ body.

2.1 Criteria of selection of assessment body/agency:

The assessment body/agency is selected on the basis of

Prior experience and understanding of Life Sciences or similar sector.

Approved in 23th NSQC, Dated: 22 September, 2020

- Experience in conducting assessments for similar job roles.
- Manpower and Technical capabilities.
- Geographical reach
- Existing Network in the Life Sciences Sector
- Agencies internal policies to maintain standards, quality & professional Integrity
- Agencies policy in assessor management

2.2 Assessment tool for Basic Training:

For the Basic training assessment, the assessment instrument development is done by the selected assessment body with close monitoring and support of LSSSDC at every stage.

2.2.1 Digital Written test for knowledge assessment:

Scope – Is used to test the knowledge component of the QP.

Tools –computer or tab based online or offline.

Method – objective type questions, match the columns, fill in the blanks, tick the odd man out, choose the correct option, choose the best answer, True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-based responses.

Analysis – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of t areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.

2.2.2 Digital Written test for skill assessment:

Scope – Is used to test primarily the Skill component of the QP. Trainee's expertise in handlin and managing the situation is tested.

Tools – computer or tab based online or offline questions

Method – A situation is narrated or created in the question posed to the trainee and he is asked objective type questions to select the correct reaction to the situation. The selected situations are based on real situations.

Analysis – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks gives the clear idea of the area of improvement or expertise of the trainee. While a consolidated mark gives the overall rating the trainee.

2.3 Steps for assessment development:

and the level of difficulty of the question.

- Selection of assessment tool(s) is done as per the assessment criteria prescribed in Qualification Pack.
- For Effluent Treatment plant operator assessment a blue print of the question paper, is part of assessment tool for basic training.
- Development of lay-out of Question paper is such that the entire PCs (Performance Criteria) of that QP are covered.
- Criteria) of that QP are covered.
 Score per question maps with the weightage given to that PC, in the assessment criteria.

Approved in 23th NSQC, Dated: 22 September, 2020

- An expert from industry is selected who is called "Subject Matter Expert" (SME). This SME must have over 13-15 years of experience in the industry in same occupation.
- SME is screened and approved by LSSSDC. He is the oriented by both LSSSDC and Assessment agency on – creating question Bank, level of questions, end desired outcome of the assessment.

2.4 Execution of Basic Training Assessment:

- Post the assessment schedule confirmation of all trainees due for assessments through Apprenticeship India portal, the assessment date for basic training is decided with common agreement of Industry and LSSSDC and LSSSDC directs it's an assessment body/agency.
- Assessment agency ensures the availability of required infrastructure, tools for the assessment.
- The assessment is executed in two possible ways depending on the choice of industry:
- 2.4.1 Tab based assessment using physical proctoring
- 2.4.2 Smart phone-based assessment using e-proctoring

2.4.1 Tab-based assessment using physical proctoring

- A representative from Assessment agency are present on the day of assessment to execute the assessment at venue in case of physical proctoring.
- Assessment agency representative carries an identity card and letter from the council authorising to conduct the assessment.
- Assessment agency representative ensures authenticity of Trainee's identity by verifyin the documents (any document issued by GOI, such as Ration card, Aadhaar Card, Driving Licence, Passport, election card etc)
- Assessment agency representative maintains the records of attendance, verified documents and tablet instruments used in assessment.
- way (videos, pictures, voice recordings etc)
 Assessment agency representative transfer the assessment scores from tab to
- Assessment agency representative transfer the assessment scores from tab to assessment agency server, using a secure, encrypted web-based program.
- The assessment agency after processing the results and putting them in standard forms hands over to LSSSDC within 7 days of assessment.

Assessment agency representative collects evidences of the assessment in best possible.

2.4.2 Smart phone-based assessment using e-proctoring

- All trainees due for assessments are registered on a assessment tool application using their unique mobile number and e-mail ID along with a Govt. ID issued proof.
- An assessment link is sent to the mail ID of each trainee with a defined expiry date of the link.
- Trainee at any location can click on the link using his/her smart phone or a web camera enabled computer system
- Using the unique credentials and govt ID number, trainee logs in for start of assessmen and completes the assessment.
- Authenticity of Trainee's identity is done by assessment application by verifying the documents (any document issued by GOI, such as Ration card, Aadhaar Card, Driving Licence, Passport, election card etc.) and a live photo capture
- A live video of candidate during the assessment is captured to collect the evidences of the assessment

Approved in 23th NSQC, Dated: 22 September, 2020

- Once the assessment is complete, the assessment application automatically assessment scores to assessment agency server, using a secure, encrypted web-based program.
- The assessment agency after processing the results and putting them in standard formation hands over to LSSSDC within 7 days of assessment.

Assessment Result compilation:

- In case of offline OJT assessment -The OJT assessment results are sent to LSSSDC b
 HR department of company in a sealed envelope for compiling the assessment results.
- LSSSDC cross checks and validates the data and declares the result to Industry and trainee.
- In case of online OJT assessment-Industry nominated assessor certified by LSSSDC w be uploading the results on apprenticeshipindia.org portal.
- Passed trainees are provided with certificate.

Note: At any point of time assessment strategy would be as per the current guidelines from MSDE.

• LSSSDC Protocol for Accreditation of Assessment Agencies and Assessment Guideline Ver1.00 is attached as annexure 3

ASSESSMENT EVIDENCE

Marks Allocation								
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a			
	Operate Wastewater Treatment Plant	10	25	0	0			
1. SGJ/N6601:	pc1. start the wastewater treatment plant by switching on the pumps, mixers, controllers and other equipments	2	5					
	PC2. perform the operation and cleaning of different screens	1	3					
Operate Wastewater	PC3. operate different valves in a wastewater treatment plant	1	2					
Treatment Plant	PC4. charge the slurry tank	1	3					
	PC5. operate oil skimmer and fill drums as required	1	2					
	PC6. perform the addition of chemicals and microbes to treat water as required	1	3					
	PC7. facilitate the calibration of process control equipment as needed	1	2					

Marks Allocation					
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
	PC8. ensure that the sludge is handled properly	1	3		
	PC9. complete the documentation as required	1	2		
	Total	10	25	0	0
	Monitor the working of Wastewater Treatment Plant	18	27	0	0
	PC1. check all equipments and fill out daily activities log sheet.	3	5		
	PC2. ensure proper working of wastewater collection system.	2	4		
	PC3. monitor the working of wastewater pumping station and record any anomalies.	2	4		
	PC4. take chemical inventory and record the chemical and water usage daily.	3	4		
	PC5. monitor and record all meter and gauge readings.	2	6		
2 SGJ/N6602: Monitor and Maintain the	PC6. visually inspect the discharge at delivery point periodically for anomalies.	4	2		
Wastewater Treatment Plant	PC7. prepare and maintain the operation records.	2	2		
	Maintain the Wastewater Treatment Plant	8	12	0	0
	PC8. perform maintenance on valves, filters, pumps, tanks and aerators.	2	4		
	PC9. perform general maintenance.	1	2		
	PC10. ensure the cleanliness work area and equipment.	1	2		
	PC11. assist in developing the estimates for repair, maintenance and construction activities in the wastewater treatment plant.	2	2		
	PC12. complete the documentation as required.	2	2		

Marks Allocation					
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
	Total	26	39	0	0
	Work safety at Wastewater treatment plant	20	30	0	0
	PC1. identify the hazards associated with different tasks in a wastewater treatment plant	5	7	SC	>
2. CO I/NICCOT.	PC2. inform the concerned person of the accident and hazard occurred	2	3	0	
3. SGJ/N6605: Work Safety at Wastewater treatment plant	PC3. select the right personal protective equipment for different tasks in a waste treatment plant	5	7		
	PC4. perform the changing of chlorine cylinders safely	3	5		
	PC5. ensure safe storage of corrosive substances	3	5		
	PC6. ensure health & safety by following company policies & processes and industry standards for work safety	2	3		
	Total	20	30	0	0
	GMP-critical activities prior to effluent treatment	10	15		
C	PC1. take the shift handover as per the SOP				
4. LFS/N0262: Carry out GMP- critical (Good Manufacturing Practices) activities and their documentation	PC2. inspect ETP equipment for safety checks and leakage regularly				
	PC3. ensure the display of specific labels for a designated area for hazardous chemicals				
	PC4. ensure availability of Material Safety Data Sheets (MSDS) in ETP area for all the chemicals in use				
	GMP-critical activities during ETP operations	10	15		

Marks Allocation	Marks Allocation				
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
	PC5. operate spill control equipment in ETP area				
	PC6. perform the filtration of treated water as per SOP and transfer treated water for reuse as per SOP			>	
	PC7. ensure the collection of effluent water samples before and after treatment as per GMP and Good PC8. Laboratory Practices (GLP)				
	guidelines for sampling PC9. ensure testing, analysis, and reporting of collected samples				
	PC10. check the pH of the sample and record as per SOP				
	PC11. ensure to send parallel samples to an inhouse (established in the organization) environmental lab and vigilance samples taken by authorities to a regulatory environmental lab for analysis				
	GMP-critical activities post effluent treatment	10	15		
C	PC12. maintain the leachate (landfill) treatment facility (if available) for hazardous chemicals				
	PC13. perform waste disposal as per environmental and GMP regulations under the guidance of the supervisor				
	Reporting and Documentation	8	12		
	PC14. prepare an ETP performance report				
	PC15. comply EC (environmental clearance), CTE (consent to establishment) & CTO (Consent to operations)				

Marks Allocation					
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
	condition wise compliance report				
	PC16. submit the reports to internal stakeholders and statutory authority as per regulations PC17. submit periodic reports to			_	
	supervisor as per SOP				
	PC18. document all the control steps are undertaken or recommended to be followed as per the standards			3	
	Environment sustainability	2	3		
	PC19. ensure energy conservation by switching off the machine and equipment post operations				
	PC20. identify ways to optimize the usage of electricity/ energy in various PC21. tasks/ activities/ processes				
	PC22. ensure energy conservation by optimizing the ETP plant machine/ equipment performance				
	PC23. identify recyclable and non- recyclable, and hazardous waste generated				
	PC24. segregate waste into different categories to achieve minimum pollution of land and water				
	Total	40	60	0	0
	Coordination with Supervisor	10	20	0	0
	PC1. follow work instructions received from the reporting supervisor				
5.LFS/N0263: Coordinate with	PC2. communicate process-flow improvements, production defects received from the previous process, repairs and maintenance of				

Marks Allocation					
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
EHS Supervisor	equipment to reporting				
& team and respond to audit	supervisor PC3. submit periodic reports to				
queries	the supervisor as per SOP				
•	Coordination within the team	15	20	0	0
	and cross- functional Teams	13	20		
	PC4. support team members and colleagues of other departments in work		.(<i></i>
	PC5. take handover from previous shift operator and give handover to next shift		1		
	operator as per SOP PC6. find solutions to workflow				
	related difficulties with mutual agreement				
	PC7. coordinate with QA for ETP plant validation at a routine interval as per SOP				
	PC8. conduct regular Toolbox Talk with helpers to improve safety observation and system				
	PC9. provide inputs to the concerned stakeholders in periodic fence line review to detect non-compliance				
	PC10. evaluate the impact of trending regulatory and statutory guideline updates, and communicate the same to internal stakeholders and				
	EHS Incharge Respond to audit queries	10	15	0	0
	PC11. interact with the auditor in their preferred language as per their comfort				
	PC12. provide clear answers to the auditor's queries PC13. produce the documented records of				

Marks Allocation					
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
	performed activities and operations to auditors				
	PC14. maintain data integrity while responding to auditors and regulatory inspectors				
	Sensitivity towards all genders and people with disability	5	5	0	0
	PC15. respect all the genders, religions, and caste		.(
	PC16. empathize with the people with disability PC17. offer support or help to a person with disability only when asked	·(3		
	PC18. ensure to adhere with the guidelines laid in Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act				
	PC19. report any violation of prevention of sexual harassment (POSH) rules immediately to the POSH committee Total	40	60	0	0
	Listen	4	20	0	0
	PC1. follow English phrases and expressions related to areas of personal, social and professional domains provided speech is clearly articulated	0	4		
	PC2. follow the general outline of a demonstration or presentation on a familiar or predictable topic, where the message is expressed in simple English language and there is visual support (e.g. slides, handouts)	2	4		

Marks Allocation					
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
	PC3. follow and correctly interpret instructions delivered in English, addressed to him/her and follow short, simple directions	0	4		
6.MEP/N9993: Use Basic English for Employability - Variant III	PC4. interpret correctly, when someone tells him/her in English, where something is, provided the object is in the immediate environment	0	4		
variant III	PC5. follow questions in English, on basic themes addressed to him/her, though the questions may need to be repeated	2	4		
	Speak	8	48	0	0
	PC6. converse with others including with customers, in English, on basic everyday themes, in limited, familiar contexts, with factual information	2	4		
	PC7. ask and respond to basic direct questions in English, in an interview, spoken clearly in direct non-idiomatic speech about	2	4		
	personal details PC8. describe him/herself (e.g. interests, likes and dislikes, goals and desires) in English, using simple, rehearsed sentences	2	5		
	PC9. read-out basic, short rehearsed texts or statements of English accurately, with short pauses	0	5		
	PC10. speak over the phone in English, in an audible manner, using appropriate greetings, opening and closing statements		5		

Marks Allocation					
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
	PC11. speak in public places using a tone, pitch and manner that is socially appropriate	0	5		
	PC12. read and understand routine information and instructions in English, and the basic meaning of non-routine information only in a familiar area and re-reading as required	0	5		
	PC13. read short, simple English texts on familiar matters which consist of high frequency, every day or jobrelated language	0	5		
	PC14. read very basic formal English emails and letters and correctly interpret them (e.g. information being provided or asked for, confirmation of transactions, etc.)	0	5		
	PC15. read and correctly interpret simple, brief instructions provided that they are illustrated and not written in continuous text	2	5		
	Write	4	16	0	0
	PC16. write short, basic messages and take notes on areas of immediate priority and can complete forms and necessary paperwork, in English	0	4		
	PC17. write basic letters in English, with accuracy to communicate the main message and specific details	2	4		
	PC18. write email in English, using professional protocols and following email etiquette	2	4		
	PC19. write information or descriptive text in short	0	4		

Approved in 23th NSQC, Dated: 22 September, 2020

Marks Allocation					
Assessment outcomes	Assessment Criteria for outcomes	Theor y	Skills Practic al	Proj ect	Viv a
	paragraphs, in English, accurately and in a logical flow Total	16	84	0	0

24. Assessment evidences

Title of Component: 1. SGJ/N6601: Operate Wastewater Treatment Plant

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Operate Wastewater Treatment Plant	PC1. start the wastewater treatment plant by switching on the pumps, mixers, controllers and other equipments
	PC2. perform the operation and cleaning of different screens
	PC3. operate different valves in a wastewater treatment plant
	PC4. charge the slurry tank
	PC5. operate oil skimmer and fill drums as required
	PC6. perform the addition of chemicals and microbes to treat water as required
	PC7. facilitate the calibration of process control equipment as needed
	PC8. ensure that the sludge is handled properly
	PC9. complete the documentation as required
Means of assessment 1	Digital Written test for knowledge assessment: Scope – Is used to test the knowledge component of the Qualification Pack.
	<u>Tools</u> – Computer or tab based online or offline.
	Method – objective type questions, match the
	columns, fill in the blanks, tick the odd man out,
	choose the correct option, choose the best answer, True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-
	based responses.

	Analysis – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.
Means of assessment 2	Digital Written test for skill assessment Scope – Is used to test primarily the Skill component of the QP. Trainee's expertise in handling and managing the situation is tested. Tools – computer or tab based online or offline questions. Method – A situation is narrated or created in the question posed to the trainee and he is asked objective type questions to select the correct reaction to the situation. The selected situations are based on real situations. Analysis – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.
Means of assessment 4	Project Assessment Scope – Is used to test primarily the Skill component of the QP. Trainee's expertise in utilization of knowledge and skills in real life job scenarios Tools – Project report. Method – The trainee is deployed in Industry for on the job trainee or is being asked to work on a specific project (utilizing skills as per qualification pack). A project report duly endorsed by his/her project supervisor is prepared by the trainee and submitted for evaluation. The Assessor asks Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions based on the project report Analysis –Project Assessments are analysed on knowledge and skill component.
Means of assessment 4	Viva
	Scope – Is used to test the knowledge and understanding and breadth of awareness about the subject. Some personality traits and generic skills (such as – promptness, sharpness, communication skills, depth of knowledge, comprehension, presentation, patience etc) can also be tested required for the QP. Tools – Direct dialogue between assessor and Trainee.

Approved in 23th NSQC, Dated: 22 September, 2020

Method – Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions. Different questions are included to test relevant PCs from the QP Analysis – Assessor is provided with spectrum of ready answers to be expected from trainee. This reduces effect of subjectivity of the assessor. Comparative quality of trainees with in a batch or different institutes can be gauged

Pass/Fail

The aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment, Project and Viva is 70%. In case of RPL where Project will not be there ,the aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment and Viva shall also be 70%.

Title of Component: 2. SGJ/N6602: Monitor and Maintain the Wastewater Treatment Plant

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Monitor the working of Wastewater Treatment Plant	PC1. check all equipments and fill out daily activities log sheet.
	PC2. ensure proper working of wastewater collection system.
	PC3. monitor the working of wastewater pumping station and record any anomalies.
	PC4. take chemical inventory and record the chemical and water usage daily.
	PC5. monitor and record all meter and gauge readings.
	PC6.visually inspect the discharge at delivery point periodically for anomalies.
	PC7. prepare and maintain the operation records.
Maintain the Wastewater Treatment Plant	PC8.perform maintenance on valves, filters, pumps, tanks and aerators.
·	PC9. perform general maintenance.
	PC10. ensure the cleanliness work area and equipment.
	PC11. assist in developing the estimates for repair, maintenance and construction activities in the wastewater treatment plant.
	PC12. complete the documentation as required.

Approved in 23th NSQC, Dated: 22 September, 2020

Means of assessment 1 Digital Written test for knowledge assessment:

<u>Scope</u> – Is used to test the knowledge component of the Qualification Pack.

<u>Tools</u> – Computer or tab based online or offline.

<u>Method</u> – objective type questions, match the columns, fill in the blanks, tick the odd man out, choose the correct option, choose the best answer, True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-based responses.

Analysis – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.

Means of assessment 2 Digital Written test for skill assessment

<u>Scope</u> – Is used to test primarily the Skill component of the QP. Trainee's expertise in handling and managing the situation is tested.

<u>Tools</u> – computer or tab based online or offline questions.

Method – A situation is narrated or created in the question posed to the trainee and he is asked objective type questions to select the correct reaction to the situation. The selected situations are based on real situations.

Analysis – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.

Means of assessment 3

Project Assessment

<u>Scope</u> – Is used to test primarily the Skill component of the QP. Trainee's expertise in utilization of knowledge and skills in real life job scenarios <u>Tools</u> – Project report.

Method – The trainee is deployed in Industry for on the job trainee or is being asked to work on a specific project (utilizing skills as per qualification pack). A project report duly endorsed by his/her project supervisor is prepared by the trainee and submitted for evaluation. The Assessor asks Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions based on the project report Analysis –Project Assessments are analysed on knowledge and skill component.

Approved in 23th NSQC, Dated: 22 September, 2020

Means of assessment 4	Viva
	Scope – Is used to test the knowledge and
	understanding and breadth of awareness about the
	subject.
	Some personality traits and generic skills (such as –
	promptness, sharpness, communication skills, depth
	of knowledge, comprehension, presentation, patience
	etc) can also be tested required for the QP.
	Tools – Direct dialogue between assessor and
	Trainee.
	Method – Direct questions open and close ended
	questions, situation-based questions, analytical
	questions, and decision-making based questions.
	Different questions are included to test relevant PCs
	from the QP
	Analysis – Assessor is provided with spectrum of
	ready answers to be expected from trainee. This
	reduces effect of subjectivity of the assessor.
	Comparative quality of trainees with in a batch or
	different institutes can be gauged
B /F !!	

Pass/Fail

The aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment, Project and Viva is 70%. In case of RPL where Project will not be there ,the aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment and Viva shall also be 70%.

Title of Component: 3. SGJ/N6605: Work Safety at Wastewater treatment plant

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Work safety at Wastewater treatment plant	PC1. identify the hazards associated with different tasks in a wastewater treatment plant
	PC2. inform the concerned person of the accident and hazard occurred
	PC3. select the right personal protective equipment for different tasks in a waste treatment plant
	PC4. perform the changing of chlorine cylinders safely
	PC5. ensure safe storage of corrosive substances
	PC6. ensure health & safety by following company policies & processes and industry standards for work safety
Means of assessment 1	Digital Written test for knowledge assessment:
	Scope – Is used to test the knowledge component of
	the Qualification Pack.
	<u>Tools</u> – Computer or tab based online or offline.

	Method – objective type questions, match the columns, fill in the blanks, tick the odd man out, choose the correct option, choose the best answer, True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-based responses. Analysis – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.
Means of assessment 2	Digital Written test for skill assessment
mound of addediffelit 2	Scope – Is used to test primarily the Skill component of the QP. Trainee's expertise in handling and managing the situation is tested. Tools – computer or tab based online or offline questions. Method – A situation is narrated or created in the question posed to the trainee and he is asked objective type questions to select the correct reaction to the situation. The selected situations are based on real situations. Analysis – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.
Means of assessment 3	Project Assessment
	Scope – Is used to test primarily the Skill component of the QP. Trainee's expertise in utilization of knowledge and skills in real life job scenarios Tools – Project report. Method – The trainee is deployed in Industry for on the job trainee or is being asked to work on a specific project (utilizing skills as per qualification pack). A project report duly endorsed by his/her project supervisor is prepared by the trainee and submitted for evaluation. The Assessor asks Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions based on the project report Analysis –Project Assessments are analysed on knowledge and skill component.
Means of assessment 4	Viva
	Scope – Is used to test the knowledge and understanding and breadth of awareness about the subject.

Approved in 23th NSQC, Dated: 22 September, 2020

Some personality traits and generic skills (such as – promptness, sharpness, communication skills, depth of knowledge, comprehension, presentation, patience etc) can also be tested required for the QP. <u>Tools</u> – Direct dialogue between assessor and Trainee.
Method – Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions. Different questions are included to test relevant PCs from the QP
Analysis – Assessor is provided with spectrum of ready answers to be expected from trainee. This reduces effect of subjectivity of the assessor. Comparative quality of trainees with in a batch or different institutes can be gauged

Pass/Fail

The aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment, Project and Viva is 70%. In case of RPL where Project will not be there ,the aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment and Viva shall also be 70%.

Title of Component: 4. LFS/N0262: Carry out GMP-critical (Good Manufacturing Practices) activities and their documentation

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Routine Checks and maintenance for ETP Operations in Life Sciences Sector	PC1. take the shift handover as per the SOP PC2. perform the Filtration of treated water as per SOP and transfer treated water for reuse as per SOP PC3. inspect ETP equipment for safety checks and leakage on a regular basis
	PC4. ensure the effluent samples before and after treatment as per SOP and carryout/ensure testing/analysis and reporting as per SOP
	PC5. check pH of the sample and record as per SOP
	PC6.take the parallel samples when authorities collect vigilance samples and send them to an environmental lab for analysis
	PC7.ensure display of specific labels for a designated area for hazardous chemicals and availability of Material Safety Data Sheet
	PC8. maintain the leachate (landfill) treatment facility (if available) for hazardous chemicals
	PC9. operate spill control equipment at ETP area

NSQF QUALIFICATION FILEApproved in 23th NSQC, Dated: 22 September, 2020

	PC10. perform Waste Disposal as per Regulations and SOP under the guidance of a supervisor
Reporting and	PC11. prepare an ETP performance report
Documentation	PC12. comply EC (environmental clearance), CTE (consent to establishment) & CTO (Consent to operations) condition wise compliance report
	PC13. submit the reports to internal stakeholders and statutory authority as per regulations
	PC14. submit periodic reports to supervisor as per SOP
	PC15. document all the control steps are undertaken or recommended to be followed as per the standards
Means of assessment 1	Digital Written test for knowledge assessment: Scope – Is used to test the knowledge component of the Qualification Pack.
	Tools – Computer or tab based online or offline. Method – objective type questions, match the columns, fill in the blanks, tick the odd man out, choose the correct option, choose the best answer, True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-based responses. Analysis – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.
Means of assessment 2	Digital Written test for skill assessment Scope – Is used to test primarily the Skill component of the QP. Trainee's expertise in handling and managing the situation is tested. Tools – computer or tab based online or offline
	questions. Method – A situation is narrated or created in the question posed to the trainee and he is asked objective type questions to select the correct reaction to the situation. The selected situations are based on real situations. Analysis – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks
	gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.
Means of assessment 3	Viva

Approved in 23th NSQC, Dated: 22 September, 2020

	Scope – Is used to test the knowledge and understanding and breadth of awareness about the subject.
	Some personality traits and generic skills (such as – promptness, sharpness, communication skills, depth of knowledge, comprehension, presentation, patience etc) can also be tested required for the QP.
	<u>Tools</u> – Direct dialogue between assessor and Trainee.
	<u>Method</u> – Direct questions open and close ended questions, situation-based questions, analytical
	questions, and decision-making based questions. Different questions are included to test relevant PCs from the QP
	Analysis – Assessor is provided with spectrum of ready answers to be expected from trainee. This
	reduces effect of subjectivity of the assessor. Comparative quality of trainees with in a batch or
	different institutes can be gauged
D /E - 'I	

Pass/Fail

The aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment, Project and Viva is 70%. In case of RPL where Project will not be there ,the aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment and Viva shall also be 70%.

Title of Component: LFS/N0263: Coordinate and communicate with EHS Supervisor, teams and auditors

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Coordination with Supervisor	PC1. receive work instructions from reporting supervisor
	PC2. communicate to reporting supervisor about process-flow improvements, production defects received from the previous process, repairs and maintenance of equipment as required
	PC3. submit periodic reports to supervisor as per SOP
Coordination within Team and Cross- functional Teams	PC4. work as a team with colleagues and share work as per their or own workload and skills
	PC5. work and support colleagues of other departments

	PC6. take handover from previous shift operator and give handover to next shift operator as per SOP and
	enquire for any important information/ deviation PC7. communicate and discuss workflow related difficulties in order to find solutions with mutual agreement
	PC8. provide the meaning and purpose of the information shared to team members
	PC9. coordinate with QA for ETP plant validation at a routine interval as per SOP
	PC10. conduct regular Toolbox Talk with helpers to improve safety observation and system
	PC11.participate in periodic Fence line review to identify non-compliance with respect to the environment
	PC12. participate in tracking the latest regulatory and statutory guideline updates, evaluate the impact and communicate with internal stakeholders and EHS Incharge
Respond to audit queries	PC13.interact with auditor in a language he/ she (job role holder) is comfortable
	PC14. understand the query clearly and give an honest and clear answer
	PC15. produce the documented records for activities performed
	PC16.maintain data integrity while responding to auditors and regulatory inspectors
	PC17. follow guidelines for ethics and compliance in the life sciences industry
Sensitivity towards genders and people with disability	PC18. demonstrate respect towards all genders, religions, and caste
	PC19.demonstrate respect towards people with disability for their work and skills
	PC20.empathize the specially-abled persons and ask before offering support or help to a specially-abled person at the workplace
	PC21. demonstrate adherence with the guidelines laid in Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act
	PC22.report any violation of prevention of sexual harassment (POSH) rules immediately to the POSH committee
Means of assessment 1	Digital Written test for knowledge assessment: Scope – Is used to test the knowledge component of the Qualification Pack.
	Tools – Computer or tab based online or offline.

Approved in 23th NSQC, Dated: 22 September, 2020

<u>Method</u> – objective type questions, match the columns, fill in the blanks, tick the odd man out, choose the correct option, choose the best answer, True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-based responses.

Analysis – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee

Means of assessment 2

Digital Written test for skill assessment

<u>Scope</u> – Is used to test primarily the Skill component of the QP. Trainee's expertise in handling and managing the situation is tested.

<u>Tools</u> – computer or tab based online or offline questions.

Method – A situation is narrated or created in the question posed to the trainee and he is asked objective type questions to select the correct reaction to the situation. The selected situations are based on real situations.

<u>Analysis</u> – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee.

Means of assessment 3

Viva

<u>Scope</u> – Is used to test the knowledge and understanding and breadth of awareness about the subject.

Some personality traits and generic skills (such as – promptness, sharpness, communication skills, depth of knowledge, comprehension, presentation, patience etc) can also be tested required for the QP.

<u>Tools</u> – Direct dialogue between assessor and Trainee.

<u>Method</u> – Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions. Different questions are included to test relevant PCs from the QP

Analysis – Assessor is provided with spectrum of ready answers to be expected from trainee. This reduces effect of subjectivity of the assessor. Comparative quality of trainees with in a batch or different institutes can be gauged

Approved in 23th NSQC, Dated: 22 September, 2020

Pass/Fail

The aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment, Project and Viva is 70%. In case of RPL where Project will not be there ,the aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment and Viva shall also be 70%.

Title of Component: 6. MEP/N9993: Use Basic English for Employability - Variant III

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
Listen	PC1. follow English phrases and expressions related to areas of personal, social and professional domains provided speech is clearly articulated
	PC2. follow the general outline of a demonstration or presentation on a familiar or predictable topic, where the message is expressed in simple English language and there is visual support (e.g. slides, handouts)
	PC3. follow and correctly interpret instructions delivered in English, addressed to him/her and follow short, simple directions
	PC4. interpret correctly, when someone tells him/her in English, where something is, provided the object is in the immediate environment
	PC5. follow questions in English, on basic themes addressed to him/her, though the questions may need to be repeated
Speak	PC6. converse with others including with customers, in English, on basic everyday themes, in limited, familiar contexts, with factual information
	PC7. ask and respond to basic direct questions in English, in an interview, spoken clearly in direct non-idiomatic speech about personal details

	PC8. describe him/herself (e.g. interests, likes and dislikes, goals and desires) in English, using simple, rehearsed sentences
	PC9. read-out basic, short rehearsed texts or statements of English accurately, with short pauses PC10. speak over the phone in English, in an audible
	manner, using appropriate greetings, opening and closing statements
	PC11.speak in public places using a tone, pitch and manner that is socially appropriate
	PC12. read and understand routine information and instructions in English, and the basic meaning of non-routine information only in a familiar area and rereading as required
	PC13. read short, simple English texts on familiar matters which consist of high frequency, every day or job-related language
	PC14. read very basic formal English emails and letters and correctly interpret them (e.g. information being provided or asked for, confirmation of transactions, etc.)
	PC15. read and correctly interpret simple, brief instructions provided that they are illustrated and not written in continuous text
Write	write short, basic messages and take notes on areas of immediate priority and can complete forms and necessary paperwork, in English
	write basic letters in English, with accuracy to communicate the main message and specific details
	write email in English, using professional protocols and following email etiquette
	write information or descriptive text in short paragraphs, in English, accurately and in a logical flow
Means of assessment 1	Digital Written test for knowledge assessment: Scope – Is used to test the knowledge component of the Qualification Pack.
	<u>Tools</u> – Computer or tab based online or offline. <u>Method</u> – objective type questions, match the
	columns, fill in the blanks, tick the odd man out, choose the correct option, choose the best answer,
	True or false, Identify the object, tool or machinery, arrange in proper sequence, case study, scenario-
	based responses. Analysis – Question paper is divided in sections. Each Section intends to assess a particular knowledge field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a

Approved in 23th NSQC, Dated: 22 September, 2020

	consolidated mark gives the overall rating of the
	trainee.
Means of assessment 2	Digital Written test for skill assessment Scope – Is used to test primarily the Skill component of the QP. Trainee's expertise in handling and managing the situation is tested. Tools – computer or tab based online or offline questions. Method – A situation is narrated or created in the question posed to the trainee and he is asked objective type questions to select the correct reaction
	to the situation. The selected situations are based on real situations. Analysis – Question paper is divided in sections. Each Section intends to assess a particular skill field of the trainee. Thus, section wise calculation of marks gives the clear idea of the areas of improvement or expertise of the trainee. While a consolidated mark gives the overall rating of the trainee. Viva
Means of assessment 3	Scope – Is used to test the knowledge and understanding and breadth of awareness about the subject. Some personality traits and generic skills (such as – promptness, sharpness, communication skills, depth of knowledge, comprehension, presentation, patience etc) can also be tested required for the QP. Tools – Direct dialogue between assessor and Trainee. Method – Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions. Different questions are included to test relevant PCs from the QP Analysis – Assessor is provided with spectrum of ready answers to be expected from trainee. This reduces effect of subjectivity of the assessor.
Page/Fail	Comparative quality of trainees with in a batch or different institutes can be gauged

Pass/Fail

The aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment, Project and Viva is 70%. In case of RPL where Project will not be there ,the aggregate pass marks for Digital Written test for knowledge assessment, Digital Written test for skill assessment and Viva shall also be 70%.



Approved in 23th NSQC, Dated: 22 September, 2020

SECTION 2

25. EVIDENCE OF LEVEL

Tittle/Name of t	he qualification/Component:		Level:
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF level
Process	Few of the job elements, expected to be performed by Effluent Treatment Plant Operator- Life Sciences are: Operate wastewater treatment plant Monitor the working of wastewater treatment plant Maintain the wastewater treatment plant Work safety at wastewater treatment plant Routine checks and maintenance for ETP operations in Life Sciences Sector	Effluent Treatment Plant (ETP) Operator operates a wastewater treatment plant as per the SOPs followed in the Life Sciences Sector. He/she is responsible to monitor and maintain wastewater treatment plant by routinely following the work safety guidelines and checking the maintenance of ETP Operations throughout the job functions. He/she is also responsible to perform reporting and documentation. All the above performance outcomes are routine and common in all the work assigned to ETP Operator, hence they are categorized as familiar and predictable processes where the ETP Operator has a situation of clear choice.	4
Professional Knowledge	Few of the job elements, expected to be performed by Effluent Treatment Plant Operator- Life Sciences are: Operate wastewater treatment plant Monitor the working of wastewater treatment plant	To perform the tasks given in the left- hand side box, ETP Operator needs to have the factual knowledge of wastewater treatment plant, how to routinely monitor and maintain the	4

	 Maintain the wastewater treatment plant Work safety at wastewater treatment plant Routine checks and maintenance for ETP operations in Life Sciences Sector Coordinate with EHS Supervisor & team and respond to audit queries Use Basic English for Employability 	wastewater treatment plant by recalling the work safety guidelines. The job holder should also be efficient to coordinate with EHS Supervisor & team and respond to audit queries by using basic English language sentences, expressions and text to meet the communication needs to fulfill work requirements of ETP Operator	
Professional Skills	 Few of the job elements, expected to be performed by Effluent Treatment Plant Operator- Life Sciences are: start the wastewater treatment plant by switching on the pumps, mixers, controllers and other equipments monitor the working of wastewater pumping station and record any anomalies. visually inspect the discharge at delivery point periodically for anomalies. perform maintenance on valves, filters, pumps, tanks and aerators identify the hazards associated with different tasks in a wastewater treatment plant inspect ETP equipment for safety checks and leakage on a regular basis operate spill control equipment at ETP area Reporting and documentation Respond to audit queries 	To perform the tasks of Effluent Treatment Plant Operator the job holder utilizes professional skills like Analytical Skills, Critical Skills, Problem Solving, Decision Making. For timely maintenance of wastewater/effluent treatment plant uses the planning and organizing skills as well as customer-centricity is required when he/she responds to audits. The scope of utilization of all above professional skills remains limited to routine and repetitive and for a narrow range of applications	4

Core Skills	Few of the job elements, expected to be performed by Effluent Treatment Plant Operator- Life Sciences are: Reporting and documentation Coordination with supervisor Coordination within teams and cross-functional teams Respond to audit queries Sensitivity towards gender and people with disability Use Basic English for Employability	To perform the tasks written on the left-hand side box, Effluent Treatment Plant Operator uses basic English language for communication in written or oral mode. For reporting and documentation proposed, he/she applies the basics of arithmetic and algebraic principles. For coordination related tasks and ensuring compliance to organizational SOPs and regulatory requirements, he/she is expected to have a basic understanding of the social-political and natural environment at the place of work/ organization he/she is working for.	4
Responsibility	Few of the job elements, expected to be performed by Effluent Treatment Plant Operator- Life Sciences are: Operate wastewater treatment plant Monitor the working of wastewater treatment plant Maintain the wastewater treatment plant Work safety at wastewater treatment plant Routine checks and maintenance for ETP operations in Life Sciences Sector Reporting and documentation Coordination with supervisor Coordination within teams and cross-functional teams	Effluent Treatment Plant Operator- Life Sciences has responsibility for his/her work and learning and supports to Incharge and EHS team to ensure effluent treatment team. And in case of a scenario/situation of no clear choice, he is expected to take guidance from the supervisor.	4

NSQF	QU	ALIFI	CAT	ION	FILE
-------------	----	--------------	-----	-----	-------------

• F	Respond to audit queries
• 5	Sensitivity towards gender and people with
C	disability
• (Jse Basic English for Employability

Approved in 23th NSQC, Dated: 22 September, 2020

SECTION 3

EVIDENCE OF NEED

What evidence is there that the qualification is needed? What is the industry relevance of this qualification and what is the basis of this?

Need of the qualification

of the LSSSDC has prepared a skill gap report forecasting the need for this job role both on a short-term and long-term basis.

Additionally, all the industries that have validated the qualification have expressed the need for this qualification considering the futuristic need.

Industry Relevance

S.No	Name of Organization
1	Biocon Limited
2	Geltech Pvt Ltd.
3	Acharya & BM Reddy College
4	BioQuest Solution
5	Bioclinica
6	Mankind
7	Serum
8	Solara Active Pharma Sciences Ltd.
9	GSK Pharmaceuticals India
10	Recipharma Pharmaservices Pvt. Ltd.,
11	Kemwell Biopharma Pvt. Ltd.
12	Ontop Pharma (P) Ltd.
13	Group Pharma Malur
14	Synthokem
15	Reliance Life sciences
16	IPCA
17	Sun Pharmaceutical Industries Ltd.
18	DRL
19	Johnson & Johnson Pvt Ltd.
20	M/s. Unichem Laboratories Limited
21	Micro labs Ltd.
22	Glenmark Pharmaceutical Ltd.
23	Aurobindo Pharma Ltd.
24	Amneal Pharmaceuticals Pvt. Ltd.
25	Akums Drugs and Pharmaceutical Ltd.
26	East African India Overseas
27	Belco Pharma
28	Unimark Healthcare Ltd.
29	DrugFarm Laboratories
30	MaxTar Bio-Genics
31	Medicam Organics Ltd.
32	Bal Pharma Limited Unit 1

		33 Anglo French Drugs and Industries Ltd.
		34 S.V Organics Pvt. Ltd.
		35 Nakoda Chemicals Ltd.
		36 Covalent Laboratories Pvt. Ltd.
		37 Umed Pharma Labs Pvt. Ltd.
	Usage of qualification	LSSSDC would submit periodic details (directly/Via NSDC) of the employment generated (wherever applicable) and realize under training in the Qualifications post-approval of NSQC and implementation of the qualification.
	Estimated uptake	LSSSDC has prepared a skill gap report forecasting the year wise estimated uptake. The forecasted uptake is given as annexure-4.
27		rom the concerned Line Ministry of the atory Body. To be supported by documentary
		at Treatment Plant Operator- Life Sciences (Pharma, rch) has been approved by Ministry of Environment, nange.

Approved in 23th NSQC, Dated: 22 September, 2020

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated? Specify the review process here Workshops with Industry Associations of Employers are part of a continuous awareness drive and will be utilized as a channel to get continual feedback from Industry.

SSC will be engaged with Training Providers and Authorised educational institutions, who are imparting training as per QP guidelines, to gather feedback in implementation

Monitoring of candidate Assessment Result will be carried out Employer feedback will be sought post placement of trainee's batch A formal review is scheduled in a four-vear time frame

SECTION 4 EVIDENCE OF PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

Show the career map here to reflect the clear progression

Mobility options to other qualifications are enabled through the alignment of educational qualifications and prior work experience stated as a requirement in the respective qualifications. For Example:

After 3-4 years of Industry work experience as Effluent Treatment Plant Operator post-qualifying the certification of Effluent Treatment Plant Operator- Life Sciences (Pharma, Bio-Pharma & Research), a candidate has an option to qualify for Executive- EHS (Level 5) as an upward progression.

Effluent Treatment Plant Operator also has an option to qualify for Wastewater Treatment Plant Technician (Level- 4) Sector- Skill Council for Green Jobs as a horizontal progression.

Also, have a horizontal progression across manufacturing and R&D based sectors as well as in the Municipal Corporation and Gram Panchayat as Wastewater Treatment Plant Technician.