







Model Curriculum

Faecal Sludge Treatment Plant O&M Technician

SECTOR: GREEN JOBS

SUB-SECTOR: WASTE MANAGEMENT

OCCUPATION: OPERATION & MAINTENANCE

REF ID: SGJ/Q6404, V 1.0

NSQF LEVEL: 4















Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

SKILL COUNCIL FOR GREEN JOBS

for the

MODEL CURRICULUM

Complying to National Occupational Standards of Job Role/ Qualification Pack: 'Faecal Sludge Treatment Plant O&M Technician' QP No. 'SGJ/Q6404 NSQF Level 4'

Date of Issuance:

November 30th, 2018

Valid up to:

November 29th, 2020

* Valid up to the next review date of the Qualification Pack

Authorised Signatory (Skill Council for Green Jobs)









TABLE OF CONTENTS

1. Curriculum	01
2. Trainer Prerequisites	05
3. Annexure: Assessment Criteria	06









Faecal Sludge Treatment Plant O&M Technician

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "<u>Faecal Sludge Treatment Plant O&M Technician</u>" in the "<u>Green Jobs</u>" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Faecal Sludge Treat	ment Plant O&M Techni	cian				
Qualification Pack Name & Reference ID	SGJ/Q6404, V 1.0						
Version No.	1.0	1.0 Version Update Date 30.11.2018					
Pre-requisites to Training	ITI or equivalent						
Training Outcomes	After completing this programme, participants will be able to: Identify various components of Faecal Sludge Treatment Plant(FSTP) Identify Repair and Maintenance tools and equipment Identify Personal Protective Equipment Perform day to day operation of Faecal Sludge Treatment Plant(FSTP) Carryout routine maintenance of pumps, engines, motors, filters, bar screens, valves, pipes and any equipment's at the FSTP Work effectively with co-workers Maintain personal health and safety while operating FSTP						









This course encompasses <u>4</u> out of <u>4</u> Compulsory National Occupational Standards (NOS) of "<u>Faecal Sludge Treatment Plant O&M Technician</u>" Qualification Pack issued by "<u>Skill Council for Green Jobs</u>".

Sr. No.	Module	Key Learning Outcomes Equipment Requir		
1	Introduction to Faecal Sludge Treatment Plant Operation	Recognize various component of Faecal Sludge Treatment Plant(FSTP)	Illustrative pictures of FSTP plant and equipment repair tools, Personal Protective	
	Theory Duration (hh:mm) 06:00 Practical Duration (hh:mm) 16:00	 Recall role of administrative management in FSTP operation Recall working knowledge of handling repair and maintenance tool Identify Personal Protective Equipment 	Equipment	
	Corresponding NOS Code Bridge Module			
2	Carry out operation of FSTP	Collect sludge sample from sludge vacuum tank and deliver to laboratory	Screening and Grit equipment, rake, spade,	
	Theory Duration (hh:mm) 16:00	 for testing Carry out visual inspection of equipment and septage receiving 	air hose, pump, blower, generator, crusher, hose keeping equipment,	
	Practical Duration (hh:mm) 40:00	 station at FSTP Facilitate calibration of process control and instrumentation system at FSTP 	shovel, plastic sheet, long steel sieve, measuring tape, sludge measuring equipment-glass tube,	
	Corresponding NOS Code SGJ/N6415	 Operate septage receiving station Screening of sludge for removing grit Operate solid and liquid separation unit 	Hand gloves, helmet/ cap, appropriate mask to cover face, reflective vest (One for each candidate), gum	
		Operate desludging pumpOperate blowersOperate generator	boots etc.	
		 Operator compressors Monitor overall working of FSTP Prepare daily log sheet and other 		
		relevant reports/recordsClean sludge receiving station and equipment in use		









Sr. No.	Module	Key Learning Outcomes	Equipment Required
3	Carry out routine maintenance of FSTP Theory Duration (hh:mm) 17:00 Practical Duration (hh:mm) 35:00 Corresponding NOS Code SGJ/N6416	 Inspect equipment at FSTP for any damage i.e hose pipe, bucket, glass tube, plastic sheet, shovel, rake, etc. Carry out replacement of damaged equipment Monitor facility and equipment in order to identify leak Repair equipment if leak is identified Monitor malfunctioning of FSTP by testing inlet and outlet sample of sludge Perform routine maintenance activities for motor bearing, flanges used at FSTP Perform greasing of moving parts Change oil in generator, machines and equipment Prepare routine maintenance record of major and minor activities Perform routine cleaning of work area and FSTP used equipment 	Grease, machine oil, Screening and Grit equipment, rake, spade, air hose, pump, blower, generator, crusher, Hand gloves, helmet/ cap, appropriate mask to cover face, reflective vest (One for each candidate), gum boots etc.
4	Maintain personal health & safety in FSSM Theory Duration (hh:mm) 12:00 Practical Duration (hh:mm) 28:00 Corresponding NOS Code SGJ/N6410	 Identify violation of workplace safety policies Identify the location of first aid materials Administer first-aid Identify personal safety hazards or work site hazards Identify the personal protective equipment Demonstrate safety drill Demonstrate safe and accepted practices for personal protection Use insect repellent at unhygienic places Identify sign boards/caution such as "Work in progress" or "Danger" to avoid accidents related to use of sharp tools and equipment 	Hand sanitizer/soap, ice box, Hand gloves, helmet/ cap, appropriate mask to cover face, reflective vest (One for each candidate), gum boots etc.
5	Working effectively with co-workers Theory Duration (hh:mm) 09:00	 Identify ways to assist colleagues positively to maximize effectiveness and efficiency in carrying out tasks Discuss importance of work culture 	Short-answer and fill-in- the-blank papers, rubrics and quizzes, internet connecting devices









Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 21:00 Corresponding NOS Code SGJ/N0120	Demonstrate appropriate communication etiquette and dressing at work place Demonstrate responsible and disciplined behaviours at the workplace Identify ways to put up grievances and problems to appropriate authority Demonstrate collaboration and group participation to achieve common goals	
	Total Duration: 200:00 Theory Duration 60:00 Practical Duration 140:00	Unique Equipment Required: Screening and Grit equipment, rake, illustrative picture of FSTP spade, air hose, pump, blower, generator, crusher, hose ke equipment, shovel, plastic sheet, long steel sieve, measuring sludge measuring equipment-glass tube, Hand gloves, helmet/ ca box, appropriate mask to cover face, reflective vest (One for candidate), gum boots, Short-answer and fill-in-the-blank parubrics and quizzes, internet connecting devices	

Grand Total Course Duration: 200 Hours, 0 Minutes

(This syllabus/ curriculum has been approved by **Skill Council for Green Jobs**)









Trainer Prerequisites for Job role: "Faecal Sludge Treatment Plant O&M Technician" mapped to Qualification Pack: "SGJ/Q6404"

Sr. No.	Area	Details			
1	Description	To deliver accredited training service, mapping to the curriculum			
		detailed above, in accordance with the Qualification Pack <u>"SGJ/Q6404"</u> .			
		Version 1.0".			
2	Personal	Aptitude for conducting training, and pre/ post work to ensure			
	Attributes	competent, employable candidates at the end of the training. Strong			
		communication skills, interpersonal skills, ability to work as part of a			
		team; a passion for quality and for developing others; well-organised			
		and focused, eager to learn and keep oneself updated with the latest in			
		the mentioned field.			
3	Minimum	ITI /Diploma or B.Tech			
	Educational	or			
	Qualifications	The education qualification can be relaxed in case of extraordinary			
		relevant field experience			
4a	Domain	Certified for Job Role: "Faecal Sludge Treatment Plant O&M			
	Certification	Technician" mapped to QP: "SGJ/Q6404, Version 1.0". Minimum			
		accepted score as per SCGJ guidelines is 80%.			
4b	Platform	Recommended that the Trainer is certified for the Job Role: "Trainer",			
	Certification	mapped to the Qualification Pack: "MEP/Q0102" or equivalent. Minimum			
		accepted score as per SSC guidelines is 80%.			
5	Experience	Minimum 3 years of relevant industry experience for ITI /Diploma			
		or			
		Minimum 2 years of relevant industry experience for B.Tech			









CRITERIA FOR ASSESSMENT OF TRAINEES

<u>Job Role</u> Faecal Sludge Treatment Plant O&M Technician Qualification Pack SGJ/Q 6404

Sector Skill Council Green Jobs

Guidelines for Assessment

- 1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
- 2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
- 3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
- 4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
- 5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
- 6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
- 7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Compulsory NOS Total Marks: 160		Marks Allocation			
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practic al
SGJ/N6415: Carry out operation of FSTP	PC1. collect and deliver sludge samples from sludge vacuum tank to laboratory for verification of system performance		5	2	3
	PC2. carry out the visual inspection of equipment at FSTP and document the status		5	2	3
	PC3. carry out the operation of septage receiving station, screening and grit removal, solid and liquid separation unit	44	7	3	4
	PC4. operate the pumps, blowers, generators, compressors, and other such machinery/equipment required in operation of FSTP		4	2	2
	PC5. facilitate the calibration of process control and instrumentation systems	5	2	3	
	PC6. monitor the working of FSTP and fill out daily activity log sheet for reporting any failures		5	2	3
	PC7. prepare relevant reports, summarize the records and provide recommendations for optimizing the FSTP system		5	2	3









	PC8. facilitate and support co-workers in site environmental investigations, field surveys		5	2	3
	PC9. ensure the cleanliness of work area and equipment		3	1	2
		TOTAL	44	18	26
SGJ/N6416: Carry out routine	PC1. visually inspect the equipment at the FSTP for any damage		6	2	4
maintenance of FSTP	PC2. carry out the replacement of worn parts and perform emergency services		6	2	4
	PC3. monitor facilities and equipment in order to identify and repair leaks or other malfunctions		6	2	4
	PC4. perform routine maintenance activities including greasing of moving parts, changing oil etc.	41	6	2	4
	PC5. perform the maintenance of motors, bearings, flanges, seals and any other equipment of FSTP		6	2	4
	PC6. perform cleaning of work area and equipment		4	1	3
	PC7. prepare the routine maintenance records of the main activities, malfunctions and recommendations as required		6	2	4
		TOTAL	41	13	28
SGJ/N6410: Maintain personal health & safety in	PC1. display sign boards/caution such as "Work in progress" or "Danger" to avoid accidents related to use of sharp tools and equipment		6	2	4
FSSM	PC2. Identify contact person when workplace safety policies are violated		5	2	3
	PC3. provide information about incident/violation		4	2	2
	PC4. identify the location of first aid materials and administer first-aid		3	1	2
	PC5. identify personal safety hazards or work site hazards	40	3	1	2
	PC6. identify the personal protection equipment required for specific work activity and location		4	1	3
	PC7. attend safety drills organised by the company or any other authority		3	1	2
	PC8. demonstrate safe and accepted practices for personal protection		5	2	3
	PC9. learn first-aid procedure		3	1	2









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	PC10. use insect repellents and safe drinking water		4	2	2
		TOTAL	40	15	25
SGJ/N0120: Work effectively with co-worker	PC1. assist other colleagues in performing tasks in a positive manner where required and possible		5	2	3
	PC2. consult and assist others to maximize effectiveness and efficiency in carrying out tasks		5	2	3
	PC3. demonstrate appropriate communication etiquette while working		5	2	3
	PC4. demonstrate active listening skills while interacting with others at work	35	5	2	3
	PC5. demonstrate responsible and disciplined behaviors at the workplace		5	2	3
	PC6. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict		5	2	3
	PC7. ensure collaboration and group participation to achieve common goals		5	2	3
		TOTAL	35	14	21