

Model Curriculum

Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)

SECTOR: GREEN JOBS
SUB-SECTOR: WASTE MANAGEMENT
OCCUPATION: MANAGEMENT AND SUPPORT
REF ID: SGJ/Q6501, V1.0
NSQF LEVEL: 6

 Skill India शिक्षण हीरो - गुणवत्ता हीरो	 SCGJ SKILL COUNCIL FOR GREEN JOBS	 N · S · D · C National Skill Development Corporation Transforming the skill landscape
<h1>Certificate</h1>		
CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS		
is hereby issued by the		
SKILL COUNCIL FOR GREEN JOBS		
for		
MODEL CURRICULUM		
Complying to National Occupational Standards of Job Role/ Qualification Pack: ' Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)' QP No. ' SGJ/Q6501 NSQF Level 6 '		
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Date of Issuance: July 5 th 2018 Valid up to*: May 26 th 2020		Dr. Praveen Saxena Authorised Signatory (Skill Council for Green Jobs)
*Valid up to the next review date of the Qualification Pack or the 'Valid up to' date mentioned above (whichever is earlier)		

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Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)”, in the “Green Jobs” Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)		
Qualification Pack Name & Reference ID	SGJ/Q6501, v1.0		
Version No.	1.0	Version Update Date	12.04.2018
Pre-requisites to Training	Graduate+ Minimum 2 years of experience in the field of waste management		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Carry out market analysis • Identify key suppliers of waste • Prepare a financial plan \ • Liaise with government authorities/local authorities, corporations etc. for smooth conduct of business operations. • Maintain health and safety at workplace • Improve communication & soft skills which include etiquette, manner, perception etc. • Manage overall operations of biomass depot • Manage overall operations of compost yard • Manage overall operations of dry waste collection center 		

This course encompasses **4 out of 4 Compulsory NOS** (National Occupational Standards), **3 out of 3 Elective NOS**, of “Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)” Qualification Pack issued by “Skill Council for Green Jobs”.

COMPULSORY NOS:

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	Introduction Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 00:00 Corresponding NOS Code Bridge Module	<ul style="list-style-type: none"> Explain different types of waste and compost Describe the role of Manager for Waste Management Demonstrate processes for procurement, processing and onward supply of biomass for biomass depot Explain production management and marketing of urban waste compost Demonstrate collection and management of dry waste focusing on plastic, paper and other waste 	Computer, White Board, Marker, Projector
2	Carry out market analysis Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code SGJ/N6501	<ul style="list-style-type: none"> Identify methods of determining existing market demands Outline primary and secondary research to identify market determinants and customer’s needs. Demonstrate project growth using statistical tool and develop profiles of resulting market segments. Identify competitors in the market and assess their respective sales strategies 	Computer, White Board, Marker, Projector
3	Formulate an operational plan Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code SGJ/N6502	<ul style="list-style-type: none"> Demonstrate methods to identify key resources, suppliers of different waste stream based on the market analysis conducted Outline technical activities associated with business operations Explain how to prepare a medium / long term sales forecast Explain creation of an expense budget, long term cash flow statement indicating various fixed and variable costs likely to be encountered Describe preparation of a cost – benefit analysis and develop a loan repayment plan 	Computer and Internet Facility, Calculator, White Board, Marker
4	Ensure compliances with applicable statutory laws, policies and procedures Theory Duration	<ul style="list-style-type: none"> Identify functioning of local corporations/authorities that have a bearing on business process Outline applicable statutory laws and policies to carryout handling of waste 	Computer and Internet Facility

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 03:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code SGJ/N6503	<ul style="list-style-type: none"> • Identify methods to build and maintain relationship with key persons for smooth functioning of business • Demonstrate methods of completing business registration, associated legal formalities and compliances • Illustrate applicable statutory laws, policies, standard, permissions and compliances to carryout waste handling business 	
5	Ensure health and safety at workplace Theory Duration (hh:mm) 02:00 Practical Duration (hh:mm) 04:00 Corresponding NOS Code SGJ/N6504	<ul style="list-style-type: none"> • Demonstrate different ways and means to handle emergency situations like fire, natural disasters, riots, etc. • Demonstrate monitoring of workplace and work processes for potential risks and threats • Explain report/record preparation for periodic checks and corrective actions • Explain health and sanitation requirements at work place • Demonstrate safe and accepted practices for personal protection • Outline standard safety operation while working at site. • Explain documented safety protocols at workplace • Administer first aid • Evaluate the existing system and identify the opportunities for improvement of health and safety at workplace 	Safety Tool Kits (including gloves, mask, boots etc.), First Aid Kit
6	Communication & Soft Skills Theory Duration (hh:mm) 04:00 Practical Duration (hh:mm) 02:00 Corresponding NOS Code Bridge Module	<ul style="list-style-type: none"> • Identify oral/spoken communication skill & testing – voice and accent, voice clarity • Outline how to develop etiquette and manners • Identify the barriers of communication like intrinsic motivation, perception, language, listening etc. • Describe methods to support continuous improvement on environment and culture within the organization 	Posters, Marker, White Board, Speakers
	COMPULSORY NOS: Total Duration: 60:00 Theory Duration: 18:00 Practical Duration 42:00	Unique Equipment Required: Computer, calculator, white board, marker, poster, projector, first aid kit, safety tool kit	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> Evaluate the effectiveness of marketing campaigns to identify avenues for enhancing market share and profitability 	
	ELECTIVE 2: Total Duration: 30:00 Theory Duration 06:00 Practical Duration 24:00	Unique Equipment Required: Computer, white board, marker, projector, Demo model of composting unit, Moisture Analyzer, temperature sensor, Weighing Machine, Gloves (non-prickable), industrial mask, safety tools kit, sanitizer	

ELECTIVE 3: Dry Waste Center

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	Manage overall operations of dry waste collection center Theory Duration (hh:mm) 06:00 Practical Duration (hh:mm) 24:00 Corresponding NOS Code SGJ/N6507	<ul style="list-style-type: none"> Demonstrate the structure and functioning of Dry waste Collection Center Explain various categories of plastic waste, paper waste and other waste Demonstrate method of evaluating material summary reports and identifying technical challenges in waste collection operations Describe monitoring of financial performance of the business Demonstrate method of identifying potential contingencies applicable to the business Identify methods of managing key resources i.e. availability of machinery, manpower etc. required during treatment / pre-processing of plastic waste, paper waste and other waste Describe monitoring of non-financial activities of the business which include timely and accurate segregation of plastic waste into various identified categories Demonstrate disposal / utilization of dry waste in a responsible manner 	Demo model of Dry waste collection center, temperature sensor, Weighing Machine, Gloves (non-prickable), industrial mask, safety tools kit, sanitizer

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	ELECTIVE 3: Total Duration: 30:00 Theory Duration 6:00 Practical Duration 24:00	Unique Equipment Required: Computer, white board, marker, projector, Demo model of Dry waste collection center, temperature sensor, Weighing Machine, Gloves (non-prickable), industrial mask, safety tools kit, sanitizer	
	GRAND Total Duration Minimum Duration for the QP= 90 hrs Theory: 24 hrs Practical: 66 hrs Maximum Duration for the QP= 150 hrs Theory: 36 hrs Practical: 114 hrs	Unique Equipment Required for the QP: Computer, white board, marker, projector, first aid kit Moisture Analyzer, temperature sensor, Weighing Machine, Gloves (non-prickable), industrial mask, safety tools kit, sanitizer, Demo model of composting unit, Demo model of Dry waste collection center, Demo model of Biomass depot	

(This syllabus/ curriculum has been approved by [Skill Council for Green Jobs](#))

Trainer Prerequisites for Job role: “Manager-Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)” mapped to Qualification Pack: “SGJ/Q6501, V1.0”

Sr. No.	Area	Details
1	Description	Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center) is responsible for carrying out market analysis and formulating business plan for the center. He/she is responsible for management of overall operation of the center and ensures health and safety at the workplace. He/she ensures compliance of applicable statutory laws, policies and procedures relating to the center.
2	Personal Attributes	Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center) should concentrate and undertake the work regularly and with periodicity. He/She must exhibit strong leadership skills to efficiently manage daily operations and the overall business
3	Minimum Educational Qualifications	Graduate
4a	Domain Certification	Certified for Job Role: “Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)” mapped to QP: “SGJ/Q6501, V1.0”. Minimum accepted score is 80%
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q0102” or equivalent. Minimum accepted score as per SSC guidelines is 80%.
5	Experience	Minimum four years of experience in the field of waste management

Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Manager- Waste Management (Electives: Biomass Depot/Compost Yard/Dry Waste Center)
Qualification Pack	SGJ/Q6501, V1.0
Sector Skill Council	Green Jobs

Sr. No.	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		Marks Allocation			
Total Marks: 150					
Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical
SGJ/N6501: Carry out market analysis	PC1.identify the existing demand for the product in given market	30	3	1	2
	PC2.conduct secondary research to gather information on market determinants such as volume of sales, economic growth rate, per capita income, etc.		4	2	2
	PC3.conduct primary research through interactions and surveys to understand the positioning of customers		4	1	3
	PC4.project the growth in demand through appropriate statistical tools		4	1	3
	PC5.identify various segments of customers and their respective needs in the given market		3	1	2
	PC6.develop profiles of resulting market segments		4	2	2
	PC7.identify competitors in the market and assess their respective sales strategies		4	1	3
	PC8.select target segments based on demand forecasting and market segmentation		4	1	3
		TOTAL	30	10	20
SGJ/N6502: Formulate an operational plan	PC1.identify key resources required for the facility	30	3	1	2
	PC2.identify key suppliers of different waste streams, based on the market analysis conducted		3	1	2
	PC3.identify key technical activities associated with business and production operations		3	1	2
	PC4. identify market prices of different components of the facility		4	2	2
	PC5. prepare a medium / long term sales forecast		3	1	2
	PC6. create an expenses budget indicating various fixed and variable costs likely to be encountered		4	1	3

	PC7.ensure development of long term cash flow statement		3	1	2
	PC8.prepare a cost – benefit analysis		4	2	2
	PC9.develop a loan repayment plan, if applicable		3	1	2
		TOTAL	30	11	19
SGJ/N6503: Ensure compliances with applicable statutory laws, policies and procedures	PC1. outline the functioning of local corporations/authorities that have a bearing on the business process	30	5	2	3
	PC2. build and maintain relationships with key persons to ensure smooth functioning of business		5	2	3
	PC3. acquire permissions and compliances as per legal requirements		5	2	3
	PC4. complete business registration and associated legal formalities		5	2	3
	PC5. update self with knowledge and understanding of the relevant rules and policies		5	2	3
	PC6. update self with information pertaining to compliances, laws, policies, and procedures		5	2	3
		TOTAL	30	12	18
SGJ/N6504: Ensure health and safety at workplace	PC1.acquire knowledge of ways and means to handle emergency situations like fire, natural disasters, riots etc.	60	5	2	3
	PC2.monitor the workplace and work processes for potential risks and threats.		4	1	3
	PC3.ensure and comply with workplace hygiene, sanitation and job specific safety procedures		5	2	3
	PC4.ensure no accidents and damages take place at the workplace		5	2	3
	PC5.ensure proper hygiene and protection from dust and other infections		6	2	4
	PC6.organise and attend fire drills and workplace safety workshops		7	2	5
	PC7.ensure that Personal Protective Equipments requirement are identified and made available at work place at all time		5	2	3

	PC8.demonstrate safe and accepted practices for personal protection		6	2	4
	PC9.carry out periodic walk-through inspections to keep work area free from hazards and obstructions		5	2	3
	PC10.identify corrective actions for hazards such as illness, accidents, fires or any other natural calamity		6	2	4
	PC11.identify and recommend opportunities for improving health and safety at the workplace		6	2	4
		TOTAL	60	21	39

ELECTIVES					
Elective 1: Biomass Depot					
Total Marks: 50		Marks Allocation			
Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical
SGJ/N6505: Manage overall operations of biomass depot	PC1. identify the various suppliers for biomass procurement	50	5	2	3
	PC2. ensure biomass supply is channelized from identified suppliers		6	2	4
	PC3. ensure proper sorting, densification and appropriate storage of biomass		6	2	4
	PC4. conduct regular meetings with various supervisors		5	2	3
	PC5. identify technical challenges encountered in daily operations		6	2	4
	PC6.monitor financial performance of the business		5	2	3
	PC7. organize resources for efficient business marketing of agri-biomass		6	2	4
	PC8. communicate the value proposition and pricing of the products to the marketing team		5	2	3
	PC9. work closely with marketing managers, distributors, key customers and representatives in solving customer problems and developing service programs		6	2	4
		TOTAL	50	18	32

ELECTIVES					
Elective 2: Compost Yard					
Total Marks: 75		Marks Allocation			
Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical
SGJ/N6506: Manage overall operations of compost yard	PC1.examine compost yard production process records regularly	75	4	2	2
	PC2.conduct periodic meetings with various supervisors		4	1	3
	PC3.identify technical challenges encountered in daily operations		4	1	3
	PC4.devise remediation measures for technical challenges encountered in daily operations, in coordination with the supervisors		4	2	2
	PC5.examine the company's financial statements on a regular basis		4	2	2
	PC6.examine the credit and debt position of the business on a regular basis		3	1	2
	PC7.examine inventory reports and assess resource use and requirements		3	1	2
	PC8.coordinate with finance team to identify various challenges faced		4	2	2
	PC9.identify potential contingencies applicable to the business		3	1	2
	PC10.establish an accessible platform for employees to express their grievances and concerns		3	1	2
	PC11.interact with employees on a regular basis to discuss their grievances and concerns		3	1	2
	PC12.establish Key Performance Indicators (KPIs) for various departments		4	2	2
	PC13.monitor the performance of various departments against the established KPIs		4	1	3
	PC14.conduct meetings with concerned departments on a regular basis for discussions on performance around KPIs		3	1	2

	PC15.analyze performance of competitors and discuss / implement some of industry best practices		4	1	3
	PC16.foster a hospitable, friendly, and productive work environment		5	2	3
	PC17.organize resources for efficient marketing of products		3	1	2
	PC18.evaluate the effectiveness of marketing campaigns to identify avenues for enhancing market share and profitability		4	2	2
	PC19.communicate the value proposition of the products to the marketing team		4	1	3
	PC20.work closely with marketing team, distributors, key customers and representatives in solving customer problems and developing service programs		5	2	3
		TOTAL	75	28	47

ELECTIVES					
Elective 3: Dry Waste Center					
Total Marks: 75		Marks Allocation			
Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical
SGJ/N6507: Manage overall operations of dry waste collection center	PC1. examine daily reports on a periodic basis	75	4	1	3
	PC2.identify and address issues (if any) with transport vehicles		3	1	2
	PC3.conduct regular meetings with various plant supervisors		4	1	3
	PC4.identify technical challenges encountered in daily operations		4	1	3
	PC5.devise remediation measures for technical challenges encountered in daily operations, in coordination with the supervisors		4	1	3
	PC6.identify various categories of plastic waste being handled		3	1	2
	PC7.ensure the availability of machinery, manpower and other resources for requisite treatment / pre-processing of plastic waste		3	1	2

PC8.coordinate with concerned supervisors to ensure timely and accurate segregation of plastic waste into various identified categories	3	1	2
PC9.examine daily material summary reports	4	2	2
PC10.identify various categories of paper waste being handled	3	1	2
PC11.ensure the availability of machinery, manpower and other resources for requisite treatment / pre-processing of paper waste	3	1	2
PC12.coordinate with concerned supervisors to ensure timely and accurate segregation of paper waste into various identified categories	3	1	2
PC13.identify various categories of other waste being handled	3	1	2
PC14.ensure the availability of machinery, manpower and other resources for requisite treatment / pre-processing of other waste	4	1	3
PC15.coordinate with concerned supervisors to ensure timely and accurate segregation of other waste into various identified categories	3	1	2
PC16.ensure the disposal / utilization of such materials in a responsible manner	4	2	2
PC17.examine the company's financial statements on a regular basis	4	2	2
PC18.identify various challenges faced pertaining to finance	4	1	3
PC19.identify potential contingencies applicable to the business	4	2	2
PC20.establish an accessible platform for employees to express their grievances and concerns	4	1	3
PC21.interact with employees on a regular basis to discuss their grievances and concerns	4	1	3
TOTAL	75	25	50