Model Curriculum

QP Name: Bulldozer Operator
QP Code: MIN/Q1401

QP Version: 2.0

NSQF Level: 4

Model Curriculum Version: 2.0

Table of Contents

Training Parameters

Sector	MINING
Sub-Sector	Mining Operation
Occupation	Loading and Hauling – Opencast
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/8342.0101
Minimum Educational Qualification and Experience	8th grade pass plus 2-year NTC plus 1 Year NAC OR 8th pass plus 1-year NTC plus 1-Year NAC plus CITS OR 10th grade pass and pursuing continuous schooling OR 10th grade pass with 2 years relevant experience OR Previous relevant Qualification (Jr. Bulldozer Operator) of NSQF Level 3.0 with minimum education as 5th Grade pass with 2 years relevant experience
Pre-Requisite License or Training	Preferable Heavy Motor Vehicle Driving License
Minimum Job Entry Age	20 Years
Last Reviewed On	27/01/2022
Next Review Date	27/01/2025
NSQC Approval Date	27/01/2022
QP Version	2.0
Model Curriculum Creation Date	27/01/2022
Model Curriculum Valid Up to Date	27/01/2025
Model Curriculum Version	2.0
Minimum Duration of the Course	510 Hours
Maximum Duration of the Course	510 Hours

Program Overview

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

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Start and drive the bulldozer.
- Prepare drill face, ramp, haul road, parapet efficiently considering all applicable safety parameters.
- Perform dozing operation to clean blasting material and dump yard.
- Operate the bulldozer in emergency situation such as failure of steering, brake, etc.
- Follow the work schedule to achieve production target on time.
- Follow the handling and operating manual as mentioned by the manufacturer.
- Report any breakdown or abnormality of bulldozer clearly, correctly, and on time
- Complete documentation on time and as per organizational requirements.
- Comply with health, safety and Environmental norms applicable for mining operations.

Compulsory Modules

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

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module(s)	**10:00**	**00:00**	**00:00**	**-**	**10:00**
Introduction to mining industry	10:00	00:00	00:00	-	10:00
MIN/N1401 – Prepare the Bulldozer for Operations NOS Version No.-1 NSQF Level-4	**20:00**	**40:00**	**50:00**	**-**	**110:00**
Pre-operation checks and routine maintenance of the Bulldozer	10:00	20:00	30:00	-	60:00
Recording and reporting the details of bulldozer's pre-operation inspection	10:00	20:00	20:00	-	50:00
MIN/N1402 – Perform bulldozer operations NOS Version No.-1 NSQF Level-4	**40:00**	**40:00**	**40:00**	**-**	**120:00**
Starting and driving the bulldozer	20:00	20:00	20:00	-	60:00
Perform various Bulldozer Operations	20:00	20:00	20:00	-	60:00

MIN/N1403 – Perform basic maintenance and troubleshooting of the bulldozer **NOS Version No.-1** **NSQF Level-4**	**20:00**	**40:00**	**30:00**	**--**	**90:00**
Perform preventive maintenance of the bulldozer	10:00	20:00	10:00	-	40:00
Perform basic diagnosis and troubleshooting of the bulldozer	10:00	20:00	20:00	--	50:00
MIN/N1404 – Carry out reporting and documentation related to the bulldozer operation **NOS Version No.-1** **NSQF Level-4**	**10:00**	**10:00**	**10:00**	**-**	**30:00**
Carry Out Reporting and Documentation	10:00	10:00	10:00	-	30:00
MIN/N1703 – Follow Health, Safety, and Environmental guidelines for opencast mines (Including Mine Vocational Training Rules) NOS Version No.-1 **NSQF Level-4**	**20:00**	**20:00**	**50:00**	**-**	**90:00**
Follow Health and Safety guidelines	04:00	04:00	10:00	-	18:00
Perform basic first-aid	04:00	04:00	10:00	-	18:00
Use of fire extinguisher	04:00	04:00	10:00	-	18:00
Environmental safety	08:00	08:00	20:00	-	36:00
DGT/VSQ/N0102: Employability Skills (60 Hours) **NOS Version No. 1** **NSQF Level- 4**	**24:00**	**36:00**	**00:00**	**-**	**60:00**
Introduction to Employability Skills	00:30	01:00	00:00	-	01:30
Constitutional values - Citizenship	00:30	01:00	00:00	-	01:30
Becoming a Professional in the 21st Century	01:00	01:30	00:00	-	02:30
Basic English Skills	04:00	06:00	00:00	-	10:00
Career Development & Goal Setting	01:00	01:00	00:00	-	02:00
Communication Skills	02:00	03:00	00:00	-	05:00
Diversity & Inclusion	01:00	01:30	00:00	-	02:30

Financial and Legal Literacy	02:00	03:00	00:00	-	05:00
Essential Digital Skills	04:00	06:00	00:00	-	10:00
Entrepreneurship	03:00	04:00	00:00	-	07:00
Customer Service	02:00	03:00	00:00	-	05:00
Getting Ready for Apprenticeship & Jobs	03:00	05:00	00:00	-	08:00
Total Duration	**144:00**	**186:00**	**180:00**	**-**	**510:00**

Module Details

Module 1: Introduction to mining industry
Bridge Module

Terminal Outcomes:

- Describe the overview of mining Industry.
- Explain the role and responsibility of the bulldozer operator.

Duration: *10:00hrs*	**Duration**: *00:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the importance of the mining industry. - Discuss the provision of wages, working hours, leave, and accident compensation as per the Mines Act-1952. - Explain the different types of mines such as open cast mines, underground mines, etc. - Explain basic terminologies and machineries used in Opencast Mines. - Describe the working cycle of opencast mines. - List the role and responsibilities of Bulldozer operator in mining industry.	
Classroom Aids:	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Posters for describing different types of mines	

SCMS SKILL COUNCIL for MINING SECTOR
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Module 2: Pre-operation checks and routine maintenance of the Bulldozer
Mapped to MIN/N1401, v1.0

Terminal Outcomes:

- Prepare the bulldozer for operations
- Discuss the functioning of various components of the bulldozer and the process of pre- operation checks.

Duration: *10:00hrs*	Duration: *20:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Describe the functioning of various components of the bulldozer - List out the steps to carried out as a part of pre-operation checks. - Explain the importance of all the meter/gauges available on the instrument panel and their malfunctioning effect. - Differentiate between different types of oil. - Describe the process of pre-operation checks as per the organization/original equipment manufacturer (OEM).	- Demonstrate the steps of checking the cleanliness of the bulldozer and outer element of air cleaner with compressed air. - Demonstrate the process of checking oil levels of engine, transmission, brake, differential and hydraulic. - Perform the examination of the water level in the radiator. - Perform the assessment of the condition of parking brake, main brake, warning lamp and head light etc. - Perform the examination of fan belt tension, electrolyte level and terminal tightness. - Show the process of filling/top-up of oil in engine, transmission, etc. - Demonstrate how to drain accumulated water from diesel tank. - Demonstrate the process of greasing different parts of bulldozer. - Demonstrate how to check the functionality of safety features in the bulldozers. - Read the logbook data. - Demonstrate the process of checking and rectifying in case of any spills and leakages in the engine, hydraulic systems, transmission etc. - Prepare a record of the readings of all gauges /meter in the instrument panels.
Classroom Aids:	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	

Bulldozer, Vehicle Driver Tool Box, Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots, Slide wrench, Bulldozer simulator, Spanner Set, Pre-check list format, Oils (Engine Oil, Transmission Oil, hydraulic Oil etc.) for sample, Grease Can, Grease Gun

Module 3: Recording and reporting the details of bulldozer's pre-operation inspection
Mapped to MIN/N1401, v1.0

Terminal Outcomes:
- Demonstrate the recording and reporting process of bulldozer's pre-operation inspection.

Duration: *10:00hrs*	Duration: *20:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
● Explain the importance of recording and reporting of pre-operation inspection details. ● List important parameters that need to be maintained in the logbook before starting the bulldozer. ● Discuss the process of reporting the problems which are beyond one's purview.	● Demonstrate the process of reporting. ● Show the process of filling the logbook in appropriate format.
Classroom Aids:	
LCD Projector, Laptop/Computer with internet, White Board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Log books, pre-checklist format	

Module 4: Starting and driving the bulldozer
Mapped to MIN/N1402, v1.0

Terminal Outcomes:

- Demonstrate the process of starting and driving the bulldozer
- Discuss traffic rules, functioning of various control, uses of switches etc.

Duration: *20:00hrs*	Duration: *20:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Describe the functioning of various control, switches, and levers. - Discuss the rock/soil properties which affect the bulldozer operation such as hardness, specific gravity etc. - Explain different type of slings and links used for lifting and shifting. - List the various signs and symbols used in various mines site. - Explain the SOP to be followed for driving the bulldozer - Describe the process of driving the bulldozer under various ground conditions. - Explain various limitations recommended by OEM/company such as load limit, speed etc. - Discuss the process of reporting any problem occurring while operating the bulldozer. - Discuss the importance of following the traffic rules while driving the bulldozer.	- Demonstrate the uses of different switches, controls, levers etc. in order to drive the bulldozer effectively. - Demonstrate how to check all the gauges/meters in the instrument panels while driving. - Display the process of driving the bulldozer in different transmission gears as per requirement. - Exhibit reversing operation using safety indicators/features of the bulldozer. - Show how to use the correct slings and links during shifting and lifting operations. - Demonstrate the process of dozing by assuming different ground conditions such as down slopes, near banks and bench edges.
Classroom Aids:	
LCD Projector, laptop/computer, white board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Bulldozer, Vehicle Driver Tool Box, Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots, Slide wrench, Bulldozer simulator, Spanner Set	

Module 5: Perform various Bulldozer Operations
Mapped to MIN/N1402, v1.0

Terminal Outcomes:

- Demonstrate various bulldozer operations.
- Discuss the importance of following the safety norms.

Duration: *20:00hrs*	**Duration**: *20:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Discuss all the by-laws of DGMS (Directorate General of Mines Safety) related to bulldozer operations. - Discuss the process of preparing the drill face, haul road and Over Burden (O/B) handling. - Explain the importance of safety pera-pit and its dimension. - Discuss the precautions to be taken while working at the dump-yard. - Explain the important factors/parameters to be considered for planning the bulldozer operation to optimize the time and fuel. - List the safety precautions to be taken while using the blade and ripper.	- Demonstrate various bulldozer operations such as the forward dozing, finishing and cutting operation. - Show how to maintain the ground level during accumulation of secondary material - Prepare the haul road by maintaining the required road quality and dimensions. - Prepare the safety pera-pit using various types of soil/rocks/material. - Demonstrate how to conduct tilting operation effectively. - Display the process of changing the blade position efficiently. - Exhibit the dozing operations in confined space such as in between shovel-dumper operation site, crusher site etc.
Classroom Aids:	
LCD Projector, laptop/computer, white board, Flip Chart, Marker	
Tools, Equipment and Other Requirements	
Bulldozer, Vehicle Driver Tool Box, Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots, Slide wrench, Bulldozer simulator, Spanner Set	

Module 6: Perform preventive maintenance of the bulldozer
Mapped to MIN/N1403, v1.0

Terminal Outcomes:

- Demonstrate the use of tools and tackles for various maintenance tasks.
- Demonstrate the process of various preventive maintenance of the bulldozer as per OEM.

Duration: *10:00hrs*	**Duration**: *20:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
● Recall the schedule for preventive and periodic maintenance as per the OEM. ● Differentiate between various hands tools required for maintenance. ● Explain the uses of various hand tools required for maintenance. ● List the various power tools and tackles required for maintenance. ● Differentiate between various electrical tools, power circuit, assemblies. ● Recall all safety precautions to be taken before any maintenance work. ● Explain the importance of following the "5-S" practice at the workshop. ● Discuss the procedure of cleaning and washing the bulldozer.	● Demonstrate how to use different tools in the various maintenance tasks. ● Demonstrate the process of operating various power tools as per the requirement. ● Demonstrate the use of various tackles in different maintenance work. ● Display the process of replacing the overage and worn out spare parts. ● Demonstrate the process of 'Lock out and Tag out'. ● Perform overhauling operation as per preventive maintenance schedule. ● Exhibit how to replace different oils, coolant as per the OEM. ● Demonstrate the process of checking the batteries voltage, terminals and fluid levels etc. ● Perform testing of various systems as defined by the OEM
Classroom Aids:	
LCD Projector, laptop/computer with internet, white board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Bulldozer, Vehicle Driver Tool Box, Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots, Slide wrench, Bulldozer simulator, Spanner Set, posters of tools, Poster of "5-S", Poster of Bulldozer (describing the components), Grinder, Sanders, Impact Wrench, Power Drill, Rotary Tool, Chain Sling, Rope Sling, Hook, Shackle, Swivel, Coupling, socket, Clamp, Tray, Chain Pulley	

Module 7: Perform basic diagnosis and troubleshooting of the bulldozer

Mapped to MIN/N1403, v1.0

Terminal Outcomes:

- Describe various part of the bulldozer, their working principle and uses.
- Demonstrate various processes for performing basic diagnosis and troubleshooting of the bulldozer

Duration: *10:00hrs*	Duration: *20:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain basic technology used in the functioning of various components of the cooling system. - Describe the working principle of braking system, brake types, brake efficiency. - Describe the working principle of transmission systems (manual, automatic etc.) and their limitations. - Explain the drivelines and hubs, drive-train assembly. - Explain various clutch assembly and their functionality. - Explain gear assembly and its function. - Explain the theory of hydraulic systems. - Classify different types of pumps and control valves. - Discuss the various error symbols displayed on instrument panel. - Recall the reporting structure and maintenance / breakdown policy and procedures.	- Recognize the fault caused due to abnormalities during the operation of the bulldozer such as noise from engine, lower deck unit, bucket movement etc. - Demonstrate the steps to analyse the irregularities in the hydraulic system, cooling system, power transmission system etc. - Perform parking of the bulldozer as per the required maintenance activity.
Classroom Aids:	
LCD Projector, laptop/computer with internet, white board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Bulldozer, Vehicle Driver Tool Box, Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots, Slide wrench, Bulldozer simulator, Spanner Set, Grease Can, sample of engine oil, hydraulic oil etc., Poster showing brake system, Poster showing cooling system, Poster showing hydraulic system, Poster showing brake system	

Module 8: Carry Out Reporting and Documentation
Mapped to MIN/N1404, v1.0

Terminal Outcomes:

- Describe the process of reporting and documentation related to bulldozer operations
- Differentiate between the different types of documents.
- Demonstrate the correct reporting procedure.

Duration: *10:00hrs*	**Duration**: *10:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- List out of different types of documents used in an organization. - Explain the procedure of reporting any incident/accident etc. - Discuss the handover and takeover procedure. - Recall all the parameter mentioned in logbooks - Discuss the importance of calculating fuel consumption, ideal hours, breakdown hours etc. - Explain the importance of the maintaining a good relationship with the supervisor/ and staff - Explain the importance of gender neutral behavior.	- Prepare all the relevant documents required for the inspection regularly. - Fill the all relevant documents correctly. - Demonstrate the reporting procedure of daily activities.
Classroom Aids:	
LCD Projector, laptop/computer with internet, white board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Maintenance based log books, Operation based log book, check list, MCDR based logbooks	

Module 9: Follow Health and Safety guidelines
Mapped to MIN/N1703, v1.0

Terminal Outcomes:

- Demonstrate the various health and safety related activities as per DGMS.
- Discuss the various safety precautions to be taken.

Duration: *04:00hrs*	Duration: *04:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
● Recall safety, health, and security-related regulations/guidelines relevant to one's role ● Recall the safety regulations of shot firing/blasting activities ● Explain the role of workmen inspector and safety committee. ● Explain the preventive measures to be taken for the occupational diseases. ● Recall the management plan to be followed in case of the emergency/disaster ● Illustrate signages, mining area-specific signs, and other safety and emergency signals. ● Recall all safety precautions to be taken while handling heavy equipment. ● Recall the SOP to be followed while working near the electrical supply and equipment. ● Explain the impact of the violation of safety procedures.	● Demonstrate the various steps of safe material handling. ● Demonstrate the use of Personal Protective Equipment (PPE) appropriately. ● Demonstrate the correct process of handling and transporting of dummy explosive ● Demonstrate the procedure of working at height.
Classroom Aids:	
LCD Projector, laptop/computer, white board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Bulldozer, Vehicle Driver Tool Box, Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots, Posters of Signages	

Module 10: Perform basic First-aid
Mapped to MIN/N1703, v1.0

Terminal Outcomes:

- Demonstrate how to provide first aid to an injured person in various situations.
- Discuss the applicability of first-aid station and first-aid room as per the Mines Act.
- Discuss the composition of first–aid box.

Duration: *04:00hrs*	Duration: *04:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
- Explain the importance of First-Aid. - List the first aid box items - Explain the use of components of the first aid box. - Discuss first-aid procedure for different high-risk situations pertaining to various mining operations. - Recall all mandatory items to be available in First-aid room and First-aid station as per DGMS. - Explain different types of injuries and occupational disease.	- Prepare a sample First-aid kit. - Prepare the stretcher using various other item such as ropes, clothes, belt etc. - Demonstrate the process of using various first-aid item. - Demonstrate the CPR (Cardio-Pulmonary Resuscitation) method. - Dramatize the emergency procedures during accidents or hazardous situations.
Classroom Aids:	
LCD Projector, laptop/computer with internet, white board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
First Aid Box, Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots, first-aid chart, stretcher, splint, sample emergency plan rope, clothes, belt, CPR Chart	

Module 11: Use of fire Extinguisher
Mapped to MIN/N1703, v1.0

Terminal Outcomes:

- Discuss different types of fires and their control mechanism.
- Demonstrate the steps for controlling different types of fires.

Duration: *04:00hrs*	Duration: *04:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Differentiate between different types of fires. • Explain the fire triangle. • Discuss all the three components in different types of fires. • Recall safety regulations and procedures in the event of fire hazards. • Discuss preventive measures to be taken in case of fire hazards.	• Demonstrate the steps for checking the condition of various types of fire extinguishers. • Demonstrate the steps of operating various types of fire extinguishers. • Dramatize the support to control different types of fires in emergency.
Classroom Aids:	
LCD Projector, laptop/computer with internet, white board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Various types of fire extinguisher, sand, water, Bucket, Helmet, Dust Mask, Goggles, Ear Plug, Gloves, Reflective jacket, Fire Extinguisher Cylinders	

Module 12: Environmental safety
Mapped to MIN/N1703, v1.0

Terminal Outcomes:

- Demonstrate the various steps to maintain surrounding environment.
- Discuss the various steps for minimizing the environmental hazards caused due to various mining operations.

Duration: *08:00hrs*	Duration: *08:00hrs*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
● Explain the ways to reduce environmental hazards caused due to related mining operations ● List the common sources of pollution in the mines. ● Recall the mine safety standards including light illumination level, noise levels, dust level, pollutants, etc. at the work-site ● Explain the process of top soil removal and management.	● Demonstrate the process of collecting, storing and disposing off the hazardous material and waste (like used oil, lubricant, battery, etc.) in compliance with worksite guidelines. ● Exhibit the various processes to prevent mixing of topsoil with waste. ● Demonstrate the washing steps of HEMM at the designated location. ● Demonstrate the various activities to improve the productivity of the machine for material/fuel conservation. ● Demonstrate the various mineral conservation practices described by the organization in accordance with MCDR-2017 (Mineral Conservation and Development Rules).
Classroom Aids:	
LCD Projector, laptop/computer, white board, Flip Chart, Markers	
Tools, Equipment and Other Requirements	
Helmet, Dust M ask, Goggles, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots, 5-S poster, Poster related to occupational health diseases	

Employability Skills (60 Hours)

Mapped to DGT/VSQ/N0102, v1.0

Key Learning Outcomes

Introduction to Employability Skills	**Duration: 1.5 Hours**

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

Constitutional values - Citizenship	**Duration: 1.5 Hours**

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that arerequired to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

Becoming a Professional in the 21st Century	**Duration: 2.5 Hours**

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptivethinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

Basic English Skills	**Duration: 10 Hours**

8. Show how to use basic English sentences for everyday conversation in different contexts, in person andover the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

Career Development & Goal Setting	**Duration: 2 Hours**

11. Create a career development plan with well-defined short- and long-term goals

Communication Skills	**Duration: 5 Hours**

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

Diversity & Inclusion	**Duration: 2.5 Hours**

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

Financial and Legal Literacy	**Duration:5 Hours**

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

Essential Digital Skills	**Duration: 10 Hours**

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

Entrepreneurship	**Duration: 7 Hours**

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan

28.	Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29.	Create a sample business plan, for the selected business opportunity

Customer Service	**Duration: 5 Hours**
30.	Describe the significance of analyzing different types and needs of customers
31.	Explain the significance of identifying customer needs and responding to them in a professional manner.
32.	Discuss the significance of maintaining hygiene and dressing appropriately

Getting Ready for apprenticeship & Jobs	**Duration: 8 Hours**
33.	Create a professional Curriculum Vitae (CV)
34.	Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35.	Discuss the significance of maintaining hygiene and confidence during an interview
36.	Perform a mock interview
37.	List the steps for searching and registering for apprenticeship opportunities

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	*Specialization*	*Years*	*Specialization*	
Graduate/CITS	Any discipline	-	-	2	Teaching experience	Prospective ES trainer should: • have good communication skills • be well versed in English • have digital skills • have attention to detail • be adaptable • have willingness to learn
Current ITI trainers	Employability Skills Training (3 days full-time course done between 2019-2022)	-	-	-	-	
Certified current EEE trainers (155 hours)	from Management SSC (MEPSC)	-	-	-	-	
Certified Trainer	Qualification Pack: Trainer (MEP/Q0102)	-	-	-	-	

Trainer Certification	
Domain Certification	**Platform Certification**
Certified in 60-hour Employability NOS (2022), with a minimum score of **80%** **OR** Certified in 120-, 90-hour Employability NOS (2022), with a minimum score of **80%**	MEP/Q2601, v2.0 Trainer (VET and Skills). Minimum accepted score as per SSC guideline is 80%.

Master Trainer Requirements

Master Trainer Prerequisites					
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	*Specialization*	*Years*	*Specialization*	
Graduate/CITS	Any discipline	-	-	3	Employability Skills curriculum training experience with an interest to train as well as orient other peer trainers	Prospective ES Master trainer should: • have good communication skills • be well versed in English • have basic digital skills • have attention to detail • be adaptable • have willingness to learn • be able to grasp concepts fast and is creative with teaching practices and likes sharing back their learning with others
Certified Master Trainer	Qualification Pack: Master Trainer (MEP/Q2602	-	-	3	EEE training of Management SSC (MEPSC) (155 hours)	

Master Trainer Certification	
Domain Certification	**Platform Certification**
Certified in 60-hour Employability NOS (2022), with a minimum score of **90%.** **OR** Certified in 120-, 90-hour Employability NOS (2022), with a minimum score of **90%**	MEP/Q2602, v2.0 Master Trainer (VET and Skills). Minimum accepted score as per SSC guideline is 90%.

The trainee will be tested for the acquired skill, knowledge and attitude through formative/summative assessment at the end of the course and as this NOS and MC is adopted across sectors and qualifications, the respective AB can conduct the assessments as per their requirements.

S No.	Name of the Equipment	Quantity
	LIST OF TOOLS & EQUIPMENT FOR EMPLOYABILITY SKILLS	
1.	Computer (PC) with latest configurations – and Internet connection with standard operating system and standard word processor and worksheet software (Licensed) (all software should either be latest version or one/two version below)	As required
2.	UPS	As required
3.	Scanner cum Printer	As required
4.	Computer Tables	As required
5.	Computer Chairs	As required
6.	LCD Projector	As required
7.	White Board 1200mm x 900mm	As required
Note: Above Tools &Equipment not required, if Computer LAB is available in the institute.		

Proposed Assessment Strategy/Guidelines:

1. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria mentioned above).

2. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	*Specialization*	*Years*	*Specialization*	
Class X	NA	6	Relevant experience required in Bulldozer Operations in the field of mining sector.	NA	-	-
OR						
ITI	Relevant trade	6	Relevant experience required in Bulldozer Operations in the field of mining sector.	NA	-	-
OR						
Diploma	Mining/ Mechanical	5	Relevant experience required in Bulldozer Operations in the field of mining sector.	NA	-	-
OR						
B-Tech	Mining/ Mechanical	4	Relevant experience required in Bulldozer Operations in the field of mining sector.	NA	-	-
OR						
CITS-NCIC	Machinist & Operator, Advance Machine Tool	1	Relevant experience in mining	NA	-	-

Trainer Certification	
Domain Certification	**Platform Certification**
MIN/Q1401, v2.0 Bulldozer Operator. Minimum accepted score as per SSC guideline is 80%.	MEP/Q2601, v2.0 Trainer (VET and Skills). Minimum accepted score as per SSC guideline is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Class X	NA	8	Relevant experience required in Bulldozer operations in the field of mining sector.	NA	-	-
OR						
ITI	Relevant trade	8	Relevant experience required in Bulldozer Operations in the field of mining sector.	NA	-	-
OR						
Diploma	Mining/ Mechanical	7	Relevant experience required in Bulldozer Operations in the field of mining sector.	NA	-	-
OR						
B-Tech.	Mining/ Mechanical	6	Relevant experience required in Bulldozer Operations in the field of mining sector.	NA	-	-
OR						
CITS-NCIC	Machinist & Operator, Advance Machine Tool	1	Relevant experience in mining	NA	-	-

Assessor Certification	
Domain Certification	Platform Certification
MIN/Q1401, v2.0 Bulldozer Operator. Minimum accepted score as per SSC guideline is 80%.	MEP/Q2701, v2.0 Assessor (VET and Skills). Minimum accepted score as per SSC guideline is 80%.

Assessment Strategy

Assessment system Overview:-

Assessment will be carried out by SCMS affiliated assessment partners. Based on the results of assessment, SCMS certifies the learners. Candidates have to pass online theoretical assessment which is approved by SCMS.

The assessment will have both theory and practical components in 30:70 ratio.

While theory assessment is summative and an online written exam; practical will involve demonstrations of applications and presentations of procedures and other components. Practical assessment will also be summative in nature.

Testing Environment:-

Training partner has to share the batch start date and end date, number of trainees and the job role.

Assessment is fixed for a day after the end date of training. It could be next day or later. Assessment will be conducted at the training venue.

Question bank of theory and practical will be prepared by assessment agency and approved by SCMS. From this set of questions, assessment agency will prepare the question paper. Theory testing will include multiple choice questions, pictorial question, etc. which will test the trainee on theoretical knowledge of the subject.

The theory and practical assessments will be carried out on same day. If number of candidates are many, more assessors and venue will be organized on same day of the assessment.

Assessment			
Assessment Type	**Formative or Summative**	**Strategies**	**Examples**
Theory	Summative	Written Examination	Knowledge of facts related to the job role and functions. Understanding of principles and concepts related to the job role and functions
Practical	Summative	Structured tasks	Presentation
Viva	Summative	Questioning and Probing	Mock interview on topics like Court procedures Court documents Registration of documents

Assessment Quality Assurance framework

Only certified assessor can be assigned for conducting assessment. Provision of 100 % video recording with clear audio to be maintained and the same is to be submitted to SCMS.

The training partner will intimate the time of arrival of the assessor and time of leaving the venue.

Methods of Validation:-

Unless the trainee is registered, the person cannot undergo assessment. To further ensure that the person registered is the person appearing for assessment, id verification will be carried out. Aadhar card number is required of registering the candidate for training. This will form the basis of further verification during the assessment. Assessor conducts the assessment in accordance with the assessment guidelines and question bank as per the job role. The assessor carries tablet with the loaded questions. This tablet is geotagged and so it is monitored to check their arrival and completion of assessment. Video of the practical session is prepared and submitted to SCMS. Random spot checks/audit is conducted by SCMS assigned persons to check the quality of assessment. Assessment agency will be responsible to put details in SIP.

SCMS will also validate the data and result received from the assessment agency.

Method of assessment documentation and access

The assessment agency will upload the result of assessment in the portal. The data will not be accessible for change by the assessment agency after the upload. The assessment data will be validated by SCMS assessment team. After upload, only SCMS can access this data. SCMS approves the results within a week and uploads on SIP.

References

Glossary

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

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
NOS	National Occupational Standards
RE	Rare Earths
SIP	Skill India Portal
SOP	Standard Operating Procedure
SCMS	Skill Council for Mining Sector