



Model Curriculum

Banksman

SECTOR: Mining
SUB-SECTOR: Mining Operations
OCCUPATION: Specialized Operation - Underground
REF ID: MIN/Q0414, V1.0
NSQF LEVEL: 4



Certificate

COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

SKILL COUNCIL FOR MINING SECTOR

for

MODEL CURRICULUM

Complying to National Occupational Standards of

Job Role/ Qualification Pack: **'Banksman'** QP No. **'MIN/Qo414, V1.0, NSQF Level 4'**

Date of Issuance: **June 03th, 2019**

Valid up to*: **June 03th, 2021**

*Valid up to the next review date of the Qualification Pack or the
'Valid up to' date mentioned above (whichever is earlier)

Authorised Signatory
(Skill Council for Mining Sector)



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Banksman

This program is aimed at training candidates for the job of a “Banksman”, in the “Mining & Allied” Sector/Industry and aims at building the following key competencies amongst the learner.

Program Name	Banksman		
Qualification Pack Name & Reference ID.	MIN/Q0414		
Version No.	1.0	Version update date	03/06/2019
Pre-requisites to Training	Class X		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Conduct Pre-Operation check to ensure the safety and successful completion of operation. • Work in difficult physical and environmental conditions, like confined space, hot, wet, dirty and dusty environment etc. • Accomplish the operation of lowering and raising of persons, tools and materials • Check and maintain the health and safety measures in mines. 		

This course encompasses 3 out of 3 National Occupational Standards (NOS) of “Banksman” Qualification Pack issued by “Skill Council for Mining Sector”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 05:00</p> <p>Corresponding NOS Code Bridge Module</p>	<ul style="list-style-type: none"> Maintain the general discipline in the class room (Do’s & Don’ts) Explain the Role of Banksman in mining industry Explain different types of mines workings. Describe Mine Organizational structure and their respective roles. Explain the role of ethics, discipline and punctuality in working routine. Identify unstable strata in the galleries of underground mine and apply dressing. Describe the duties of workmen. Explain various provision applicable as per the Mines Act, regarding wages, working hours and accident compensation etc. Describe all mining safety procedures and Impact of violation of them. 	Computer With Internet, LCD Projector, Trainer Chair & Pin Up Boards, White Board
2	<p>Pre-Operation Check</p> <p>(hh:mm) 16:00</p> <p>Practical Duration (hh:mm) 55:00</p> <p>Corresponding NOS Code MIN/N0441</p>	<ul style="list-style-type: none"> Conduct Regular Inspection and maintenance with the mandatory norms at the top or bottom of shaft, and other associative accessories. Identify codes of signaling system. Check proper installation and functioning of signaling system. Describe the protocol to be followed, while any malfunctioning is identified in any system, like signaling, tub catches, fencing and gate Check the approval letter by the competent person for carrying of material in the cage. Describe the method of test run of the system to be conducted after one complete trip and after any stoppage of winding for repair. Check the cage and safety devices functioning before signaling. and follow the mandatory procedure. Identify the process of hoisting long objects in mines. Conduct visual inspection in safety expects such as gates & fencing, girders, operating levers, boards and displays and keps. Check cage safety features, its associates , safety mechanisms and stowing arrangements. 	Hammer, Axe, Spade, pan, wiremesh, Crow bar
3	<p>Operation and running</p> <p>Theory Duration (hh:mm) 24:00</p> <p>Practical Duration (hh:mm)</p>	<ul style="list-style-type: none"> Identify the codes and transmit signals by various mechanisms. Describe the duties of banksman. Determine the safety protocols to be followed near banking level by banksman and other employ. Determine the processes to be carry out on suspicion of any danger in shaft operation. Record and maintain a log book of all the persons, tubs hoisted in shaft, and time keeping of cage operation and maintenance. Estimate the load of people and material and avoid allowing more than the authorized number of persons to enter the cage or other means of conveyance at any time. 	Hammer, Axe, Spade, pan, Wire mesh, Crow bar

	70:00 Corresponding NOS Code MIN/N0442	<ul style="list-style-type: none"> Check that no person is allowed to ride on the top or edge of any cage or other means of conveyance except when engaged in examination, repair or any other work in the shaft. Check that no unauthorised person is allowed. 	
4	Health and safety Theory Duration (hh:mm) 18:00 Practical Duration (hh:mm) 40:00 Corresponding NOS Code MIN/N0901	<ul style="list-style-type: none"> Comply with safety, health, security and environment related regulations / guidelines at the mine and follow the Safe Operation Procedure (SOP) made before hand in consultation with the DGMS and implement the same. Use PPE (personal protective equipment) such as hand gloves, helmet, safety shoes, dust mask, ear plug, reflective jackets, safety goggles etc., Carry out operations as per the manufacturer's and worksite related health and safety guidelines and take requisite care not to damage any power, utility and pneumatic lines, and protect self and machinery from unwarranted exposure. Check that roof supporting is as per approved systematic support rule while undertaking work in an area and that no person shall travel, work or stay under unsupported roof. Identify working district ventilation line diagram for coursing of air to working face. Deal with misfires as per laid out process, take shelter at the miner's station during blasting operation, understand post-blast fumes and take necessary precautions like attending the place after lapse of 5 minutes of blasting. Identify and proceed to emergency shelter or mine rescue chamber (if available) in case of major accidents. Follow any gas detecting alarm signal and laid out procedure to ensure safety. Support in administering first aid and resuscitation measures to fellow team members and operate various grades of fire extinguishers, as applicable. Handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite guidelines as prescribed by DGMS and mine manager. Respond promptly and appropriately to an accident/ incident or emergency situation, within limits of the roles and responsibilities. Follow the manufacturer's instructions for care and safe operation of mine machinery and equipment. 	Fire Extinguisher Cylinders, First Aid Box, Fire Fighting Charts , First Aid Charts,
	Total Duration Theory Duration 70:00 Practical Duration 170:00	Unique Equipment Required: Safety helmet, dust mask, goggles, ear plug, gloves, reflective jacket, safety belt, gum boots/ safety shoes	

Grand Total Course Duration: 240 Hours, 0 Minutes

(This syllabus/ curriculum has been approved by SSC: Skill Council for Mining Sector)

Trainer Prerequisites for Job role: “Banksman” mapped to Qualification Pack: “MIN/Q0414, V1.0”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “MIN/Q0414, V1.0”.
2	Personal Attributes	This job requires sensitivity to problem solving, safety orientation, reading, writing and communication skills and good agility. The person should be of good physical condition with good vision and must pass through periodic medical tests.
3	Minimum Educational Qualifications	Class X
4a	Domain Certification	Certified for Job Role: “Banksman” mapped to QP: “MIN/Q414, 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”. Minimum accepted score for platform certification will be 80%.
5	Experience	<ol style="list-style-type: none"> 1. Class XII/ ITI – 6 years 2. Diploma in Mining – 5 years 3. B-Tech in Mining– 4 years

Annexure: Assessment Criteria

Assessment Criteria for Banksman	
Job Role	Banksman
Qualification Pack	MIN/Q0414, V1.0
Sector Skill Council	Skill Council for Mining Sector

Guidelines for Assessment

- 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.
- The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
- 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).
- Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
- To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
- In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

		Marks Allocation			
		Total Mark (100)	Out Of	Theory	Skills Practical
1. MIN/ N 0441 (Pre-Operation Check)	PC1. Inspect and maintain full control of the top or bottom of shaft and the inset	35	2	1	1
	"PC2. Conduct visual inspection of: Gates & Fencing Girders Operating Levers Boards and Displays Keys Cage Safety Features & associated safety mechanisms Stowing arrangements"		3	2	1
	PC3. Conduct general cleanliness and upkeep of cage system		3	2	1

	PC11. Keep the top of the shaft or the inset and the floor of every cage free from loose material.		3	2	1
	PC12. Ensure availability of means of fastening to enable lowering/ raising of long timber, pipes, rails or other material projecting over the top of a cage or other means of conveyance and ensure that the projecting ends are securely fastened to the rope, chains or bow.		3	2	1
	PC13. Operate and ensure that keeps are in proper working order.		2	1	1
		Total	35	22	13
2. MIN/ N 0442 (Operation and Running)	PC1. Carefully attend to, the prescribed code of signals and properly transmit the signals by the means/mechanism provided.	35	3	2	1
	PC2. Observe proper functioning of signaling installation, and notify in case of any defect		4	2	2
	PC3. Ensure that his position is attended to at all times and is not left unattended, and continues to man the position at the end of shift until relieved by a duly appointed substitute		4	2	2
	PC4. Estimate the load of people and material and not allow more than the authorized number of persons to enter the cage or other means of conveyance at any time.		4	2	2
	PC5. Not allow any person to ride on the top or edge of any cage or other means of conveyance except when engaged in examination, repair or any other work in the shaft.		4	2	2

	PC6. Operate mechanisms to open or close the cage or other means of conveyance at any entrance into a shaft or inset which is provided with gates or fences, and ensure that the gate or fence are not removed until the cage or other means of conveyance has stopped at the entrance, and proper signals have been transmitted.		4	2	2
	PC7. Notify the winding engineman to stop the engine at any instance when he suspects that the cages are not working smoothly in the shaft or when he hears anything unusual happening in the shaft while the winding engine is working.		4	2	2
	PC8. Guard and prevent unauthorized access to the cage. In case he is informed of any danger in the shaft, he will allow only maintenance personnel for examination or repair; and during the time that such examination or repair is going on, he shall remain on duty and attend to signals as per the prescribed code		4	2	2
	"PC9. Maintain the record of the following in the log book Number of persons going underground at the start of shift. Number of tubs lifted up the surface. Number of hours the cage have been in operation and number of hours it is in maintenance. Any discrepancies in the signaling system, keps, and cage catcher."		4	2	2
		Total	35	18	17

3. MIN / N 0901 (Health and Safety)	PC1. Comply with occupational health and safety regulations adopted by the employer.
	PC2. Follow mining operations procedures with respect to materials handling and accidents
	PC3. Follow the correct safety steps in case of accident or major failure
	PC4. Comply with safety regulations and procedures in case of fire hazard.
	PC5. Operate various grades of fire extinguishers.
	PC6. Work responsibly and as safe and careful as possible so as not to put the health and safety of self or others at risk, including members of the public
	PC7. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.
	PC8. Deal with misfires as per statutory requirement
	PC9. Identify characteristics of post-blast fumes and take necessary precautions.
	PC10. Wears safety gear such as hard hat, respiratory protection, eye protection, ear protection
	PC11. Follow the manufacturer's instructions for care and safe operation of the equipment.

30

3	2	1
3	2	1
3	2	1
3	2	1
3	2	1
2	1.5	0.5
2	1.5	0.5
2	1	1
3	2	1
3	2	1
3	2	1
30	20	10

Total