



Model Curriculum

QP Name: Junior Motor Operator/Junior Pump Operator

QP Code: HYC/Q0104

QP Version: 1.0

NSQF Level: 3

Model Curriculum Version: 1.0

Hydrocarbon Sector Skill Council
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Table of Contents

| | |
|---|----|
| Training Parameters..... | 3 |
| Program Overview | 4 |
| Training Outcomes..... | 4 |
| Compulsory Modules..... | 4 |
| Module Details..... | 5 |
| Module 1: Introduction to Hydrocarbon Sector and the job role of Junior Motor Operator/Junior Pump Operator | 5 |
| Module 2: Assist rig mechanic/motor Operator /pump Operator in operational and maintenance activity..... | 6 |
| Module 3: Working effectively in a team | 8 |
| Module 4: Maintain health, safety and security procedures | 9 |
| Annexure..... | 11 |
| Trainer Requirements | 11 |
| Assessor Requirements..... | 12 |
| Assessment Strategy..... | 13 |
| References | 15 |
| Glossary..... | 15 |
| Acronyms and Abbreviations..... | 17 |

Training Parameters

| | |
|---|--|
| Sector | Hydrocarbon |
| Sub-Sector | Downstream |
| Occupation | Exploration & Production |
| Country | India |
| NSQF Level | 3 |
| Aligned to NCO/ISCO/ISIC Code | NCO/2015 3134.0300 |
| Minimum Educational Qualification and Experience | Grade 8 with two years of (NTC/NAC) after 8th OR Grade 10 pass OR 9th grade pass with 1 years of relevant experience OR 8th grade pass with 2 years of relevant experience OR 5th grade pass with 5 years of relevant experience OR Previous relevant Qualification of NSQF Level 2.5 with 1.5 years relevant experience |
| Pre-Requisite License or Training | NA |
| Minimum Job Entry Age | 18 years |
| Last Reviewed On | 3-May-2023 |
| Next Review Date | 2-May-2026 |
| NSQC Approval Date | 3-May-2023 |
| QP Version | 1.0 |
| Model Curriculum Creation Date | 3-May-2023 |
| Model Curriculum Valid Up to Date | 2-May-2026 |
| Model Curriculum Version | 1.0 |
| Minimum Duration of the Course | - |
| Maximum Duration of the Course | 360 |

Program Overview

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

Training Outcomes

The individual at this job is responsible for assisting the motor operator/pump operator in repairing the motor/pump during the breakdown, monitoring the motor/pump to ensure it is functional and maintaining motor/pump to prevent it from any breakdown. The person at this job assists motor Operator/pump Operator in preparatory, operational and maintenance work during at the oil and gas production sites

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 |
|---|-----------------|--------------------|--|--|----------------|
| HYC/N0104 Assist rig mechanic/ motor Operator /pump Operator in operational and maintenance activity NOS Version No. –1.0 NSQF Level – 3 | 60:00 | 120:00 | 30:00 | Nil | 210:00 |
| Module 1: Introduction to Hydrocarbon sector and the job role of Junior Motor Operator/Junior Pump Operator | 06:00 | Nil | Nil | Nil | 06:00 |
| Module 2: Assist rig mechanic/ motor Operator /pump Operator in operational and maintenance activity | 54:00 | 120:00 | 30:00 | Nil | 204:00 |
| HYC/ N9301 – Working effectively in a team NOS Version No. – 3.0 NSQF Level – 3 | 15:00 | 45:00 | Nil | Nil | 60:00 |
| Module 3: Working effectively in a team | 15:00 | 45:00 | Nil | Nil | 60:00 |
| HYC/N9302 – Maintain health, safety and security procedures NOS Version No. – 3.0 NSQF Level – 3 | 15:00 | 45:00 | Nil | Nil | 60:00 |
| Module 4: Maintain health, safety and security procedures | 15:00 | 45:00 | Nil | Nil | 60:00 |
| Employability Module (Mandatory) | 06:00 | 24:00 | Nil | Nil | 30:00 |
| Total Duration | 96:00 | 234:00 | 30:00 | Nil | 360:00 |

Module Details

Module 1: Introduction to Hydrocarbon Sector and the job role of Junior Motor Operator /Junior Pump Operator

The individual at this job is responsible for assisting the motor operator /pump operator in repairing the motor/pump during the breakdown, monitoring the motor/pump to ensure it is functional and maintaining motor/pump to prevent it from any breakdown. The person at this job assists motor operator /pump operator in preparatory, operational and maintenance work during at the oil and gas production sites

Bridge Module

Terminal Outcomes:

- Discuss the Hydrocarbon Sector
- Discuss the job of a Junior Motor Operator /Junior Pump Operator

| Duration: 06:00 | Duration: 00:00 |
|---|-----------------------------------|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> ● Describe the oil and natural gas sector and its subsectors. ● Explain the importance of a Junior Motor operator /Junior Pump operator. ● Explain the roles and responsibilities of Junior Motor Operator /Junior Pump Operator. | |
| Classroom Aids: | |
| <ul style="list-style-type: none"> ● White / Black board and Projector ● Digital Presentation ● Computer/Laptop ● Public Addressing System | |
| Tools, Equipment and Other Requirements | |
| NA | |

Module 2: Assist rig mechanic/motor Operator /pump Operator in operational and maintenance activity

Mapped to HYC/ N0104 v 1.0

Terminal Outcomes:

- Prepare for operational and maintenance of motor/pump
- Repair and maintenance of motor/pump

| Duration: 54:00 | Duration: 120:00 |
|--|--|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> ● Describe to check the availability of calibrated tools or instrument, spare parts, equipment for repair and maintenance activity ● Describe to wear Personal Protective Equipment (PPE) before entering into the workplace ● Describe to carry out visual inspection for leakage, damage, etc. with motorman/pumpman ● Describe to clean the workplace and engine room, generator, diesel tank, air compressor, motor, pump, tools, and equipment for before repair or maintenance work ● Describe to perform general maintenance and safety check to ensure proper functioning of motor/pump ● Describe to lubricate motor/pump before use ● Describe to assist in setting up, maintain, disassemble and transport tools and equipment ● Describe to coordinate with technician for repair of faulty equipment, valves, pumps, etc. ● Describe to report malfunctioning of equipment to supervisor/manager ● Describe to assist in disassembling broken or defective part as per SOP ● Perform to assist and help for proper positioning of equipment, machinery, | <ul style="list-style-type: none"> ● Demonstrate to check the availability of calibrated tools or instrument, spare parts, equipment for repair and maintenance activity ● Demonstrate to wear Personal Protective Equipment (PPE) before entering into the workplace ● Demonstrate to carry out visual inspection for leakage, damage, etc. with motor operator/pump operator ● Demonstrate to clean the workplace and engine room, generator, diesel tank, air compressor, motor, pump, tools, and equipment for before repair or maintenance work ● Demonstrate to perform general maintenance and safety check to ensure proper functioning of motor/pump ● Demonstrate to lubricate motor/pump before use ● Demonstrate to assist in setting up, maintain, disassemble and transport tools and equipment ● Demonstrate to coordinate with technician for repair of faulty equipment, valves, pumps, etc. ● Demonstrate to report malfunctioning of equipment to supervisor/manager ● Demonstrate to assist in disassembling broken or defective part as per SOP ● Perform to assist and help for proper positioning of equipment, machinery, |

| | |
|--|--|
| <p>physical structures, or other objects for assembly or installation, using hand tools, power tools, and moving equipment as per instruction</p> <ul style="list-style-type: none"> ● Perform to follow material/equipment lifting and handling procedure ● Perform to assist rig mechanic / motorman / pumpman in reassembling broken or defective part as per SOP ● Perform to dispose waste as per waste disposal SOP ● Perform to maintain working hour report of generator, compressor, motor, pump, etc. ● Perform to clean the workplace and engine room, generator, diesel tank, air compressor, motor, pump, tools, equipment for after repair or maintenance work ● Perform to assist in preparing list of parts for procurement ● Perform to maintain record of diesel consumption or consumables ● Perform to assist crew member in case of emergency | <p>physical structures, or other objects for assembly or installation, using hand tools, power tools, and moving equipment as per instruction</p> <ul style="list-style-type: none"> ● Perform to follow material/equipment lifting and handling procedure ● Perform to assist rig mechanic/motorman/pumpman in reassembling broken or defective part as per SOP ● Perform to dispose waste as per waste disposal SOP ● Perform to maintain working hour report of generator, compressor, motor, pump, etc. ● Perform to clean the workplace and engine room, generator, diesel tank, air compressor, motor, pump, tools, equipment for after repair or maintenance work ● Perform to assist in preparing list of parts for procurement ● Perform to maintain record of diesel consumption or consumables ● Perform to assist crew member in case of emergency |
| <p>Classroom Aids:</p> | |
| <ul style="list-style-type: none"> ● White / Black board and Projector ● Digital Presentation ● Computer/Laptop ● Public Addressing System | |
| <p>Tools, Equipment and Other Requirements</p> | |
| <ul style="list-style-type: none"> ● Wrenches, Plier, Hammer, Screwdriver, Torque wrenches, Socket set, Pipe cutter ● Chain hoist ● Drill ● Pressure & Level gauge ● PPE Kit ● Manometer ● Gas detector ● Grease gun ● Flow meter ● Fire extinguisher ● Flange spreader | |

- Flame detector
- Level switches
- High pressure hose
- Valves and fitting
- Lubricant
- Motor
- Centrifugal pump
- Compressor
- Generator

Module 3: Working effectively in a team

Mapped to HYC/N9301 v 3.0

Terminal Outcomes:

- Effective team work

| Duration: 15:00 | Duration: 45:00 |
|--|--|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> ● Describe maintaining clear communication with colleagues ● Explain passing on information to colleagues in line with organizational requirements ● Describe working in a team and support the team members ● Explain working in ways that show respect to colleagues ● Describe fulfilling commitments made to colleagues ● Explain informing team members timely, if timelines can't be met ● Describe taking the necessary initiatives to resolve the issues while working in team | <ul style="list-style-type: none"> ● Demonstrate maintaining clear communication with colleagues ● Perform passing on information to colleagues in line with organizational requirements ● Perform working in a team and support the team members ● Demonstrate working in ways that show respect to colleagues ● Perform fulfilling commitments made to colleagues ● Demonstrate informing team members timely, if timelines can't be met ● Perform taking the necessary initiatives to resolve the issues while working in team |
| Classroom Aids: | |
| <ul style="list-style-type: none"> ● White / Black board and Projector ● Digital Presentation ● Computer/Laptop ● Public Addressing System | |
| Tools, Equipment and Other Requirements | |
| <ul style="list-style-type: none"> ● Dummy Team | |

Module 4: Maintain health, safety and security procedures

Mapped to HYC/N9302 v 3.0

Terminal Outcomes:

- Demonstrate how to carrying out mandatory inspection for all customers under the distributor periodically

| Duration: 15:00 | Duration: 45:00 |
|--|--|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Describe using protective clothing/equipment for specific tasks and work conditions • Explain identifying documents, location and people responsible for health and safety in the workplace • Describe identifying possible causes of risk or accident in the workplace • Describe carrying out safe working practices while dealing with hazards to ensure the safety of self and others • Explain lifting heavy objects safely using correct procedures • Describe identifying common safety signs, displayed in various areas • Explain using the various appropriate fire extinguishers on different types of fires correctly • Describe following rescue techniques applied during fire hazard • Explain following good housekeeping practice in order to prevent fire hazards • Describe list issues concerning the safety in work place • Describe informing fire safety department about any near-miss incidents in the work place • Explain following the applicable laws, regulations and codes as per safety standard • Describe preparing written accident/incident report and share with the concerned officer/department | <ul style="list-style-type: none"> • Demonstrate using protective clothing/equipment for specific tasks and work conditions • Perform identifying documents, location and people responsible for health and safety in the workplace • Demonstrate identifying possible causes of risk or accident in the workplace • Perform carrying out safe working practices while dealing with hazards to ensure the safety of self and others • Demonstrate lifting heavy objects safely using correct procedures • Perform identifying common safety signs, displayed in various areas • Demonstrate using the various appropriate fire extinguishers on different types of fires correctly • Perform following rescue techniques applied during fire hazard • Demonstrate following good housekeeping practice in order to prevent fire hazards • Perform list issues concerning the safety in work place • Demonstrate informing fire safety department about any near-miss incidents in the work place • Perform following the applicable laws, regulations and codes as per safety standard |

| | |
|---|--|
| <ul style="list-style-type: none"> ● Explain providing appropriate first aid to victims in emergency situation ● Explain basic techniques of bandaging ● Explain responding promptly and appropriately to an accident ● Explain rescue activity during an accident in real or simulated environments ● Describe correct method to rescue injured people and others during an emergency | <ul style="list-style-type: none"> ● Demonstrate preparing written accident/incident report and share with the concerned officer/department ● Perform providing appropriate first aid to victims in emergency situation ● Perform basic techniques of bandaging ● Perform responding promptly and appropriately to an accident ● Perform rescue activity during an accident in real or simulated environments ● Demonstrate correct method to rescue injured people and others during an emergency |
| <ul style="list-style-type: none"> ● Classroom Aids: | |
| <ul style="list-style-type: none"> ● White / Black board and Projector ● Digital Presentation ● Computer/Laptop ● Public Addressing System | |
| <p>Tools, Equipment and Other Requirements</p> | |
| <ul style="list-style-type: none"> ● Trainer Guide ● Participant hand book ● Escalation matrix chart ● Class Room ● White Board & Markers ● LCD Projector ● PPE Kit | |

Annexure

Trainer Requirements

| Trainer Prerequisites | | | | | | |
|---|----------------|------------------------------|----------------|---------------------|----------------|---------------------|
| Minimum Educational Qualification | Specialization | Relevant Industry Experience | | Training Experience | | Remarks |
| | | Years | Specialization | Years | Specialization | |
| ITI Pass | - | 3 | - | 1 | - | Relevant Experience |
| OR Certified under relevant Craft Instructor Training Scheme (CITS) course | | | | | | |

| Trainer Certification | |
|---|--|
| Domain Certification | Platform Certification |
| Certified for the Job Role: “Junior Motor Operator /Junior Pump Operator”, mapped to QP: “HYC/Q0104, v1.0”. Minimum accepted score is 80% | Recommended that the trainer is certified for the Job Role: “Trainer (VET & Skills)”, mapped to the Qualification Pack: “MEP/Q2601, v2.0”. Minimum accepted score as per MEPSC guidelines is 80% |

Assessor Requirements

| Assessor Prerequisites | | | | | | |
|---|----------------|------------------------------|----------------|--------------------------------|----------------|---------------------|
| Minimum Educational Qualification | Specialization | Relevant Industry Experience | | Training/Assessment Experience | | Remarks |
| | | Years | Specialization | Years | Specialization | |
| ITI Pass | - | 3 | - | 1 | - | Relevant Experience |
| OR Certified under relevant Craft Instructor Training Scheme (CITS) course | | | | | | |

| Assessor Certification | |
|--|--|
| Domain Certification | Platform Certification |
| Certified for the Job Role: “Junior Motor Operator /Junior Pump Operator”, mapped to QP: “HYC/Q 0104, v1.0”. Minimum accepted score is 80% | Recommended that the Assessor is certified for the Job Role: “Assessor (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2701, v2.0”. Minimum accepted score as per MEPSC guidelines is 80% |

Assessment Strategy

The assessment of candidates/trainees will be on the basis on assessment outcome/assessment criteria of the Qualification. In the assessment criteria for each NOS marks have been defined for theoretical and practical skills, on which the candidate will be assessed. The emphasis is on 'learning-by-doing' and performance criteria is based on the practical demonstration of skills and knowledge.

Theory/Knowledge test– This section will test the trainee on his/her knowledge on the subject/trade.

The test will be carried out online/offline with a set of random Question paper. that include multiple choice questions in multilingual, True/False Statement, audio-video question etc.

The Question Bank will be developed by Subject Matter Experts (SME) of the hydrocarbon sector and these questions again be vetted by the Industry Experts, each performance criteria have its marks for theory based on the level of question i.e. easy, medium and difficult.

Practical/Demonstration Test– This stage involves the face to face interaction between Assessor and each trainee. The practical knowledge will be tested through trade test which demonstrates the skill required for the job, by which assessor would be able to evaluate the trainee for his/her practical knowledge on respective Qualification.

To ensure the maximum possible consistency in the assessment by different assessors at different locations, orientation of the assessors is also required about the stages involved in the assessment and the assessor role in the assessment process. The assessor must have knowledge of the following concepts before assessment:

- Qualification Pack Structure
- Guidance for the assessor to conduct theory and practical assessments
- Guidance for trainees to be given by assessor before the start of the assessments.
- Guidance on assessments process, practical brief with steps of operations practical observation checklist
- Practical/Demonstration Test guidance for uniformity and consistency.
- Guidance on assessment evidence collection (signed attendance copy, verification of the authenticity of the candidate by checking the photo ID card, Photographs-while assessment undergoing etc.)

The empanelled assessment agencies will be instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments. The assessment agencies are instructed to ideally have assessor with sufficient amount of relevant industry experience related to Qualification. The assessors will also have scrutinized and have to undergo orientation of assessment framework, competency-based assessments etc.

Recognition of Prior Learning (RPL)

Under the Recognition of Prior Learning (RPL), the candidates enrolled and the assessment will be carried out as per the assessment criteria and assessment outcome of the full Qualification and the process of assessment will be carry out by the body/bodies empanelled by Hydrocarbon Sector Skill Council

In RPL, the candidate already has the skills and knowledge while working on the job from long, the learners only requires to undergo a brief orientation training and the subsequent assessment process and certification is awarded to those candidates who successfully clears the assessment. The tentative process of RPL would include the following stages:

- 1 Cluster Mapping and Mobilisation of the candidates
- 2 Counselling & Pre-Screening
- 4 Candidate registration, batch creation and enrolment
- 5 conduction of an orientation program for candidates before assessment
- 7 Assessment by HSSC
- 8 Evaluation of Assessment Result
- 9 Issuance of the Certificate to successful candidates

Assessment Strategy:

- For each Qualification Pack assessment criteria has been developed, which describe the weightage for each NOS/Performance criteria (PC) and assigned marks based on each NOS separately for theoretical and practical skills
- The question bank will be developed by the subject matter experts to assess the theoretical and practical knowledge.
- The accredited assessment agency will carry out the assessment process on the date proposed after completion of the training. The assessment will be carried out on the basis of the two parameters i.e. Theoretical test and Practical test.
- The result of the assessment will be shared by assessment body to the HSSC for review and compliance, after that result will be processed and certificates will be generated
- Assessments shall be conducted in the regional languages in case of any specific requirement from the concerned Training Provider.
- For ensuring the impartial assessment it will be ensured that the Assessment Bodies (AB) are not involved in any type of training delivery with respect to this project.

Assessment Guidelines

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 the proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on the 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 the 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 these criteria.
6. To pass the Qualification Pack assessment, every trainee should score a minimum of 50% of % aggregate marks to successfully clear the assessment.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Recommended Pass % aggregate for QP: 50%

References

Glossary

| Term | Description |
|--|--|
| Sector | Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests. |
| Sub-sector | Sub-sector is derived from a further breakdown based on the characteristics and interests of its components. |
| Occupation | Occupation is a set of job roles, which perform similar/ related set of functions in an industry. |
| Job role | Job role defines a unique set of functions that together form a unique employment opportunity in an organisation. |
| Occupational Standards (OS) | OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts. |
| Performance Criteria (PC) | Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task. |
| National Occupational Standards (NOS) | NOS are occupational standards which apply uniquely in the Indian context. |
| Qualifications Pack (QP) | QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code. |
| Unit Code | Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N' |
| Unit Title | Unit title gives a clear overall statement about what the incumbent should be able to do. |
| Description | Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for. |
| Scope | Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required. |
| Knowledge and Understanding (KU) | Knowledge and Understanding (KU) are statements that together specify the technical, generic, professional and organisational specific knowledge that an individual need in order to perform to the required standard. |
| Organisational Context | Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility. |
| Technical Knowledge | Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities. |
| Core Skills/Generic Skills (GS) | Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication-related skills that are applicable to most job roles. |

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| Electives | Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives. |
| Options | Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options. |

Acronyms and Abbreviations

| Term | Description |
|------|---|
| NOS | National Occupational Standard(s) |
| NSQF | National Skills Qualifications Framework |
| QP | Qualifications Pack |
| TVET | Technical and Vocational Education and Training |
| OS | Occupational Standard(s) |
| QP | Qualifications Pack |
| KU | Knowledge and understanding |
| GS | Generic Skills |
| FAQ | Frequently Asked Questions |
| BP | Business Partner |
| KYC | Know Your Consumer |
| FAB | Feature Advantage Benefit |