

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR GEM & JEWELLERY INDUSTRY

What are Occupational Standards (OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Contents

1. Introduction and Contact.....P1
2. Qualifications PackP2
3. OS Units.....P3
4. Glossary of Key Terms.....P21
5. Annexure: Nomenclature of QP & OS.....P23
6. Assessment Criteria.....P25

Introduction

Qualifications Pack-Setter

SECTOR: GEM & JEWELLERY

SUB-SECTOR: Handmade Gold and Gems-Set Jewellery

OCCUPATION: Setting

REFERENCE ID: G&J/Q0802

ALIGNED TO: NCO-2004/7313.30

Setter: Also called, 'Metal Setter', 'Setting Goldsmith', 'Artisan' or 'Bench-worker', the Setter sets gemstones in the collets provided for in the jewellery frame after it has been finished with all abrasive and chemical polishing processes.

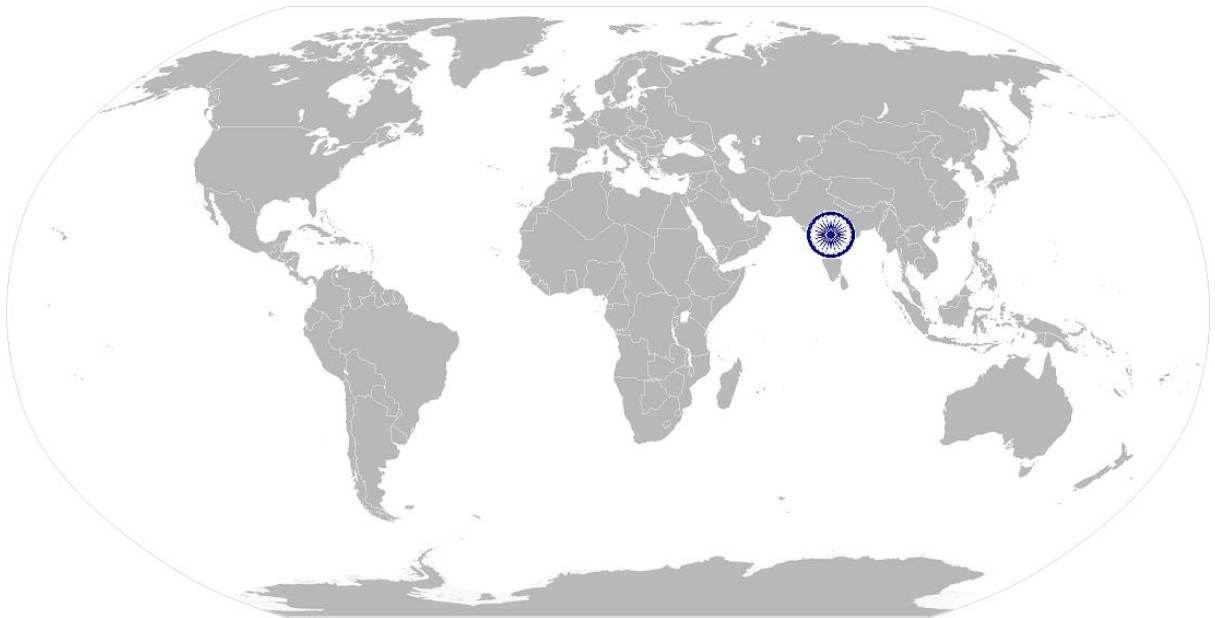
Brief Job Description: The individual at work in handmade gold jewellery manufacturing inserts and fixes precious, semi-precious and synthetic gemstones in the plain gold jewellery frame adorned with gold components.

Personal Attributes: The job requires the individual to have: integrity; attention to details; good eyesight; steady hands; ability to work in a process driven team for long hours in sitting position; a lot of patience; and creativity. The individual must work in small groups in an enclosed area with minimum hazards when dealing with sharp tools and molten lac.

Job Details	Qualifications Pack Code	G&J/Q0802		
	Job Role	Setter		
	Credits (NSQF)	TBD	Version number	1.1
	Sector	Gem & Jewellery	Drafted on	14/05/13
	Sub-sector	Handmade and Gems-set Jewellery	Last reviewed on	15/07/15
	Occupation	Setting	Next review date	15/08/16
	NSQC Clearance on*	05/08/2015		

Job Role	Setter (Metal Setter/ Setting Goldsmith/ Artisan/ Bench-worker)
Role Description	Setting stones in the finished and embellished jewellery frame with minimum damage to stone, jewellery frame and self
NSQF level	3
Minimum Educational Qualifications	Preferably 10 th standard passed
Maximum Educational Qualifications	Not Applicable
Training	Not Applicable
Minimum Job Entry Age	18 Years
Experience	Not Applicable
Applicable National Occupational Standards (NOS)	Compulsory: <ol style="list-style-type: none"> G&J/N0802 Set gemstones on jewellery frame G&J/N9910 Maintain IPR and respect copyright G&J/N9912 Coordinate with co-workers G&J/N9914 Maintain safe work environment Optional: N.A
Performance Criteria	As described in the relevant OS units

National Occupational Standard



Overview

This unit is about setting precious and semi-precious gemstones in the finished and bejewelled frame. It is usually the last step in a gold smithy. Post non-abrasive polishing, the jewel is ready for dispatch.

G&J/N0802

Set gemstones on jewellery frame

National Occupational Standard

Unit Code	G&J/N0802
Unit Title (Task)	Set gemstones on jewellery frame
Description	This OS unit is about inserting gemstones in the frame and setting it securely
Scope	<p>This unit/ task covers the following:</p> <p>Receive sorted gemstones and jewellery frame from supervisor</p> <ul style="list-style-type: none"> understand different shapes, sizes and colour of stones match stones in the bag with design understand different jewellery styles understand different types of stone cut styles such as cabochon (opaque gemstones usually) and faceted (transparent and diamond usually) in order to bezel into shallow or pronged groove or with side cuts in bezel understand different gemstones properties in terms of capacity to withstand pressure and heat understand different setting styles such as bezel/ collet setting, channel setting, prong setting, bead setting, burnish setting and Kundan-jadau setting, as well as closed and open setting <p>Set stones</p> <ul style="list-style-type: none"> set the polished jewellery frame on lac or wax coated wooden plate set stones in the collet or channel or ring as per design boil in hot water to remove lac and achieve clean surface <p>File excess gold around gemstone setting</p> <ul style="list-style-type: none"> understand design requirements such as correct length of prong, bend, colour, evenness file or cut sharp edges of prongs grind for smooth surface avoid over filing <p>Detect product defects</p> <ul style="list-style-type: none"> inform supervisor if product has arrived with polishing, cleaning, filing or linking defect from previous processes understand the type of defect and send to relevant goldsmith <p>Check quality</p> <ul style="list-style-type: none"> check visually in for any defects such as loose stone, tilted setting, marks, blank spaces check weight and dimensions of jewellery as per design understand which alloy allows re-setting of stone and which does not remove and re-set stone again if returned from QC

G&J/N0802

Set gemstones on jewellery frame

Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Gemstones setting	To be competent, the user/individual on the job must be able to: PC1. achieve flawless setting as per design requirement PC2. achieve even colour of stones set, i.e., no discolouration or breakage during setting PC3. set stones securely
Controlling gold loss	To be competent, the user/individual on the job must be able to: PC4. maintain loss as per company's loss margin policy PC5. document accounts on job sheet as per company policy
Productivity	To be competent, the user/individual on the job must be able to: PC6. deliver in time PC7. deliver number of frames with gemstones set as per target and of design quality
Quality of output	To be competent, the user/individual on the job must be able to: PC8. deliver defect free and evenly set PC9. deliver damage free stones of even colour and well secured PC10. deliver maximum number of QC-okayed settings
Handling problems	To be competent, the user/individual on the job must be able to: PC11. deliver complete jewellery on time by reporting problems faced or anticipated well in advance
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The individual on the job needs to know and understand: KA1. company's policies on: acceptable limits of precious metal loss per product type, incentives, delivery standards, safety and hazards, security, intellectual property rights (IPR), and personnel management KA2. work flow involved in jewellery manufacturing process of the company KA3. importance of the individual's role in the workflow KA4. reporting structure KA5. typical customer profile and market trends
B. Technical Knowledge	The individual on the job needs to know and understand: KB1. handmade jewellery making process KB2. types of jewellery (product, styles, regional, traditional, making technique) KB3. uses of different types of tools and techniques for gemstone setting KB4. basic properties of gemstones and effect of reaction to pressure, heat and chemicals KB5. gold alloy properties for securing and rework, i.e., which alloy allows rework KB6. filing and soldering

G&J/N0802

Set gemstones on jewellery frame

Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Basic reading and writing skills
	The individual on the job needs to know and understand how: SA1. to read notes and put notes on design SA2. to use technology such as computer for visual aid or improving efficiency
	Measuring and Geometry skills
	The individual on the job needs to know and understand how: SA3. to assess precious metal loss at each step of jewellery making so as to deliver product of correct weight and size SA4. to translate design into gems-set jewellery SA5. to bezel the stone into collet at correct angle for secure and tilt-free placing
	Teamwork and multitasking
	The individual on the job needs to know and understand how: SA6. to share work load with other setters as per capability and work load SA7. to deliver frame to next work process on time
B. Professional Skills	Reading design
	The individual on the job needs to know and understand how: SB1. to set stones as per design SB2. to spot difficulties with respect to practicality of design
	Using tools
	The individual on the job needs to know and understand how: SB3. to use the right hand tools for achieving secure setting as per design SB4. to use tools so that they do not damage jewellery frame or gemstones SB5. to use tools such as: hammer, tweezers, graver, scoop, wooden plates with lac, gas torches, table light, needles, burrs, files and soldering system SB6. to understand safety and hazards involved in using tools
	Reducing precious metal loss
	The user/individual on the job needs to know and understand: SB7. prescribed precious metal loss for the entire jewellery piece SB8. precious-metal loss applicable for setting SB9. how to reduce precious metal loss below the prescribed standards SB10. how to follow company's policies on collecting gold dust and fragments SB11. how to account in job sheet and return SB12. how to suggest improvements in order to reduce precious metal loss limits
	Reflective thinking
	The individual on the job needs to know and understand how: SB13. to improve work processes SB14. to work with good posture in a sitting position SB15. maintain clean work environment and organise tools for ease of use

G&J/N0802

Set gemstones on jewellery frame

	Critical thinking
	The individual on the job needs to know and understand how: SB16. to spot process disruptions and delays

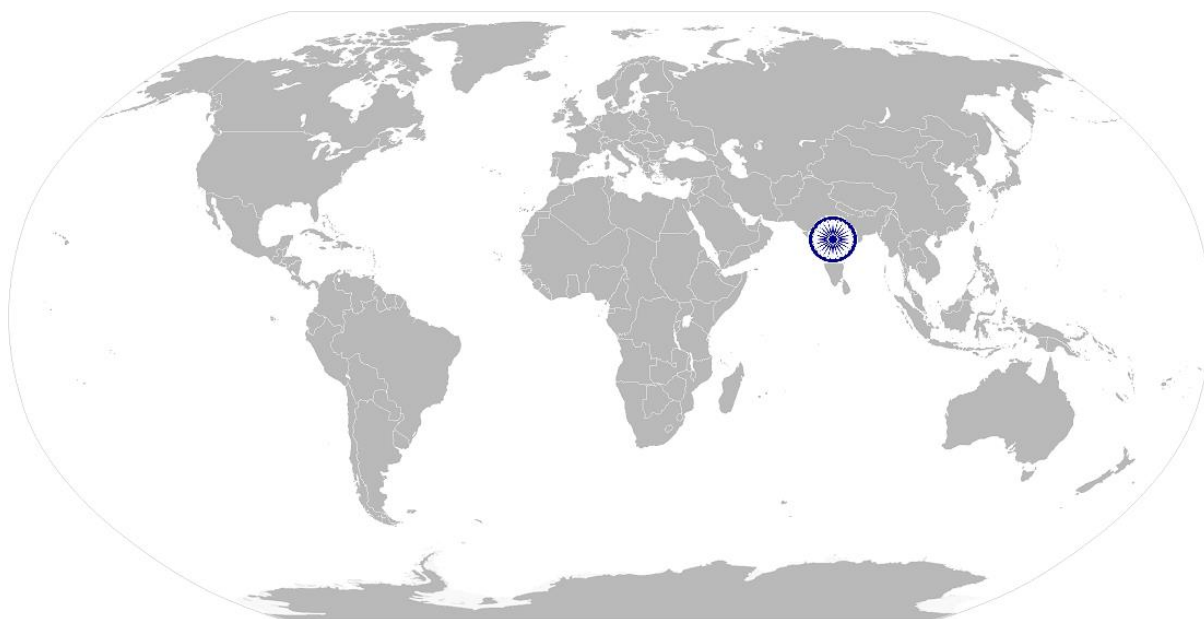
G&J/N0802

Set gemstones on jewellery frame

NOS Version Control

NOS Code	G&J/N0802		
Credits (NSQF) [OPTIONAL]	TBD	Version number	1.1
Industry	Gem & Jewellery	Drafted on	14/04/13
Industry Sub-sector	Handmade Gold and Gems-set Jewellery	Last reviewed on	15/07/15
		Next review date	15/08/16

National Occupational Standard



Overview

This unit is about and respecting intellectual property rights (IPR) of the company's products and designs and avoiding infringement on copyrights of others.

G&J/N9910

Maintain IPR and respect copyright

National Occupational Standard

Unit Code	G&J/N9910
Unit Title (Task)	Respect IPR of company as well as competitors
Description	This OS unit is about maintaining company's IPR and avoiding infringement on copyright of others
Scope	<p>This unit/task covers the following:</p> <p>Protect company's Intellectual Property Rights (IPR)</p> <ul style="list-style-type: none"> prevent leak of new designs to competitors by reporting on time be aware of any of company's product or design patents report IPR violations observed in the market, to supervisor or company heads <p>Avoid infringement to copyright of other companies</p> <ul style="list-style-type: none"> read copyright clause of the material published on the internet and any other printed material consult supervisor or senior management when in doubt about using publicly available information report any infringement observed in the company
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Respecting IPR	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. spot plagiarism and report</p> <p>PC2. understand rationale of patents and IPR</p> <p>PC3. avoid being involved in IPR violations</p>
Knowledge and Understanding (K)	
A. Organizational Context	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's policies on IPR, plagiarism and order leaks</p> <p>KA2. company's patented products</p> <p>KA3. market trends and company's unique product range</p> <p>KA4. reporting structure</p>
B. Technical Knowledge	<p>The individual on the job needs to know and understand:</p> <p>KB1. basics of patents and IPR laws</p> <p>KB2. how IPR protection is important for competitiveness of a company</p>
Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Communication skills
	<p>The user/individual on the job needs to know and understand how:</p> <p>SA1. to effectively communicate any observed IPR violations or design leaks</p>
B. Professional Skills	Decision making
	<p>The user/individual on the job needs to know and understand when and how:</p> <p>SB1. to report sources of IPR violations</p>

G&J/N9910

Maintain IPR and respect copyright

	Reflective thinking
	The user/individual on the job needs to know and understand how: SB2. to learn from past mistakes and report IPR violations on time
	Critical thinking
	The user/individual on the job needs to know and understand how: SB3. to spot signs of violations and alert authorities in time

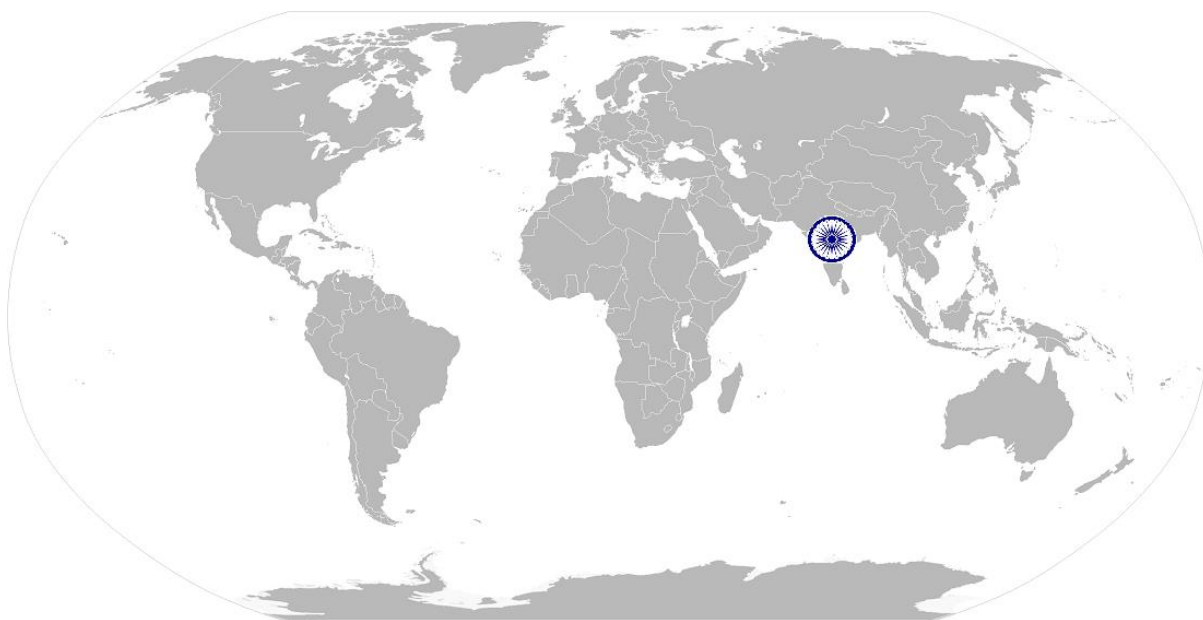
G&J/N9910

Maintain IPR and respect copyright

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Industry Sub-sector	Handmade Gold and Gems-set Jewellery	Last reviewed on	15/07/15
		Next review date	15/08/16

National Occupational Standard



Overview

This unit is about the artisan or bench worker's level of communication with colleagues or clients. It determines the goldsmith's ability to work as a team member, share work and multi-task in order to achieve the required deliverables on schedule.

G&J/N9912

Coordinate with co-workers

National Occupational Standard

Unit Code	G&J/N9912
Unit Title (Task)	Coordinate with co-workers
Description	This OS unit is about communicating with colleagues and seniors in order to maintain smooth ad hazards free work flow
Scope	<p>This unit/task covers the following:</p> <p>Interact with supervisor to:</p> <ul style="list-style-type: none"> • receive work instructions and raw materials from reporting supervisor • communicate to reporting supervisor about process flow improvements, product defects received from previous process, repairs and maintenance of tools and machinery as required • communicate any potential hazards or expected process disruptions • handover completed work to supervisor <p>Interact with colleagues within and outside the department to:</p> <ul style="list-style-type: none"> • work as a team with colleagues and share work as per their or own work load and skills • work with colleagues of other departments such as frame making or component making or polishing or setting or stores • communicate an discuss work flow related difficulties in order to find solutions with mutual agreement • receive feedback from QC and rework in order to complete work on time
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Interaction with supervisor	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. understand the work output requirements</p> <p>PC2. comply with company policy and rule</p> <p>PC3. deliver quality work on time as required by reporting any anticipated reasons for delays</p>
Interactions with colleagues and other departments	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC4. put team over individual goals</p> <p>PC5. resolve conflicts and multi-task</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's policies on personnel management</p> <p>KA2. work flow involved in company's jewellery manufacturing process</p> <p>KA3. importance of the individual's role in the workflow</p> <p>KA4. reporting structure</p>

G&J/N9912

Coordinate with co-workers

B. Technical Knowledge	<p>The individual on the job needs to know and understand:</p> <p>KB1. how to communicate effectively</p> <p>KB2. how to build team coordination</p>
Skills (S) [Optional]	
A. Core Skills/ Generic Skills	<p>Teamwork and some multitasking</p> <p>The individual on the job needs to know and understand how:</p> <p>SA1. to share work load as required</p> <p>SA2. to deliver product to next work process on time</p>
B. Professional Skills	<p>Decision making</p> <p>The individual on the job needs to know and understand:</p> <p>SB1. how to report potential areas of disruptions to work process</p> <p>SB2. when to report to supervisor and when to deal with a colleague depending on the type of concern</p> <p>Reflective thinking</p> <p>The individual on the job needs to know and understand:</p> <p>SB3. how to improve work process</p> <p>Critical thinking</p> <p>The individual on the job needs to know and understand:</p> <p>SB4. how to spot process disruptions and delays</p>

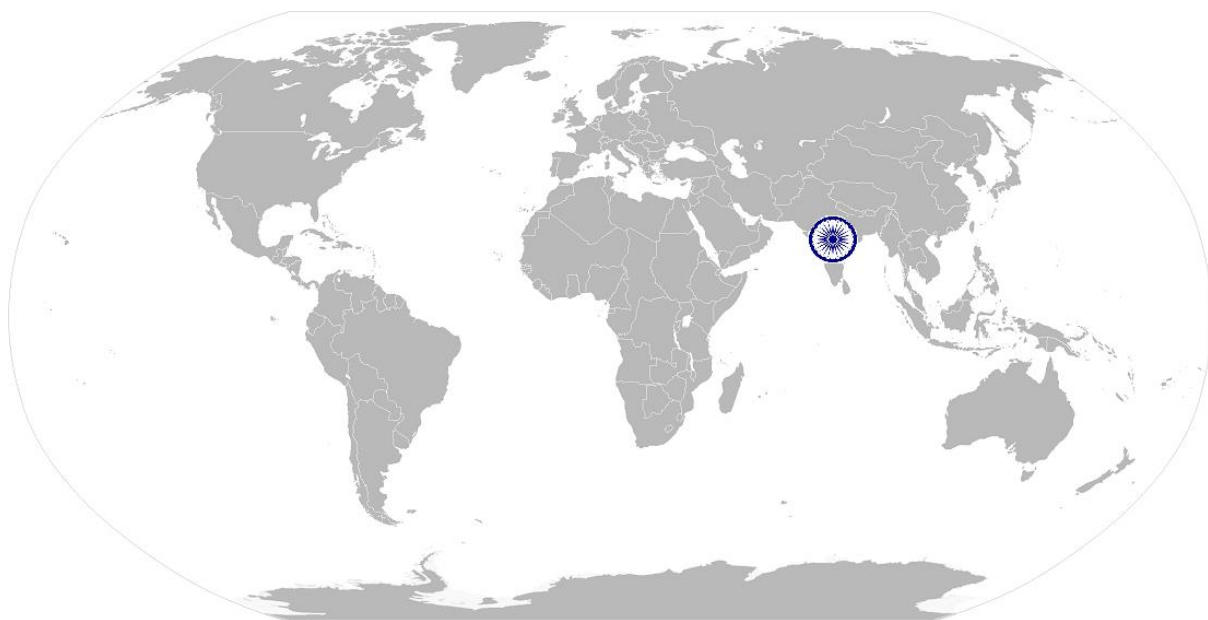
G&J/N9912

Coordinate with co-workers

NOS Version Control

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Industry Sub-sector	Handmade Gold and Gems-set Jewellery	Last reviewed on	15/07/15
		Next review date	15/08/16

National Occupational Standard



Overview

This unit is about the artisan or bench worker's commitment towards reporting potential hazards and containing accidents in order to make the work environment safe for self and colleagues.

G&J/N9914

Maintain safe work environment

National Occupational Standard

Unit Code	G&J/N9914
Unit Title (Task)	Work towards having a safe work environment
Description	This OS unit is about being aware of and communicating potential hazards and dangers of accidents on the job
Scope	<p>This unit/task covers the following:</p> <p>Understand potential sources of accidents</p> <ul style="list-style-type: none"> to avoid accidents related to use of potentially dangerous chemicals, gas torches, sharp tools and hazards from machines <p>Communicate to reporting supervisor about:</p> <ul style="list-style-type: none"> process flow improvements to reduce anticipated or repetitive hazards mishandling of tools, machines or hazardous materials electrical problems that could result in accident
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Understanding of potential sources of accidents and communicating	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. spot and report potential hazards on time</p> <p>PC2. follow company policy and rules regarding hazardous materials</p> <p>PC3. deliver quality work on time as required by reporting any anticipated reasons for delays</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's policies on handling: harmful chemicals and sharp tools, safety and hazards of machines, fire safety and, disposal of harmful chemicals and materials</p> <p>KA2. work flow involved in company's jewellery manufacturing process</p> <p>KA3. importance of the individual's role in the workflow</p> <p>KA4. reporting structure</p>
B. Technical Knowledge	<p>The individual on the job needs to know and understand:</p> <p>KB1. how different chemicals react and what could be the danger from them</p> <p>KB2. how to use machines and tools without causing bodily harm</p> <p>KB3. fire safety education</p> <p>KB4. disposal of hazardous chemicals, tools and materials by following prescribed environmental norms or as per company policy</p>
Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Communication skills
	<p>The individual on the job needs to know and understand how:</p> <p>SA1. to effectively communicate the danger</p>

G&J/N9914

Maintain safe work environment

B. Professional Skills	Decision making
	The individual on the job needs to know and understand: SB1. importance of reporting potential sources of danger SB2. appropriate actions to be taken in the event of an accident SB3. process for disposing of hazardous materials, safely and following environmental guidelines
	Reflective thinking
	The individual on the job needs to know and understand how: SB4. to learn from past mistakes regarding use of hazardous machines or chemicals or gas torches
	Critical thinking
	The individual on the job needs to know and understand: SB5. how to spot danger SB6. procedures to follow in the event of a fire or other hazard

G&J/N9914

Maintain safe work environment

NOS Version Control

NOS Code	G&J/N9914		
Credits (NSQF) [OPTIONAL]	TBD	Version number	1.1
Industry	Gem & Jewellery	Drafted on	14/04/13
Industry Sub-sector	Handmade Gold and Gems-set Jewellery	Last reviewed on	15/07/15
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Definitions

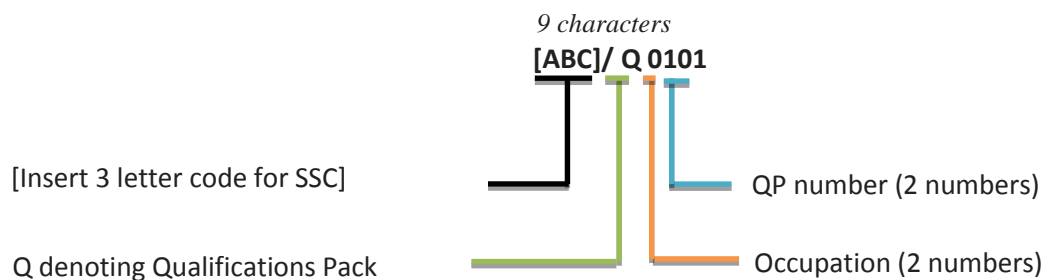
Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further 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.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or an area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Sub-function	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
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 they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance criteria are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (OS)	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	Knowledge and understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs 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	Core skills or generic skills 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.
Keywords /Terms	Description
IPR	Intellectual Property Rights
NOS	National Occupational Standard(s)
NVQF	National Vocational Qualifications Framework
NSQF	National Qualifications Framework
NVEQF	National Vocational Education Qualifications Framework
QP	Qualifications Pack

Annexure

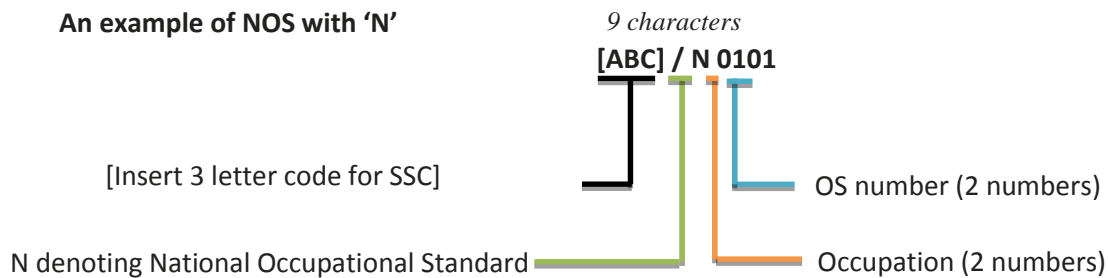
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



[Back to top...](#)

The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Handmade gold and gems-set jewellery	01-20
Cast and diamond-set jewellery	21-40
Diamond processing	41-60
Gemstone processing	61-80
Jewellery retailing	81-99

Sequence	Description	Example
Three letters	Industry name	G&J
Slash	/	/
Next letter	Whether QP or NOS	Q
Next two numbers	Occupation code	07
Next two numbers	OS number	02

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Setter

Qualification Pack G&J/Q0802

Sector Skill Council Gem & Jewellery

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. Individual assessment agencies will create theory question papers for candidates at every examination/training centre. (As per assessment criteria below)
4. Individual assessment agencies will create practical tests for skill evaluation for candidates at every examination/training centre. (As per assessment criteria below)
5. To pass the Qualification Pack, every candidate should score a minimum of 50% in theory and 70% in practical to successfully clear the assessment.
6. In case of successfully passing only certain number of NOS's, the candidate is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

		Marks Allocation			
		Total Marks (80+20)	Out Of	Theory	Skills Practical
1.G&J/N0802 Set gemstones on jewellery frame	PC1. achieve flawless setting as per design requirement	75	10	0	10
	PC2. achieve even colour of stones set, i.e., no discolouration or breakage during setting		15	5	10
	PC3. set stones securely		15	5	10
	PC4. maintain loss as per company's loss margin policy		5	0	5
	PC5. document accounts on job sheet as per company policy		3	0	3
	PC6. deliver in time		3	0	3
	PC7. deliver number of frames with gemstones set as per target and of design quality		3	0	3

	PC8. deliver defect free and evenly set		5	0	5
	PC9. deliver damage free stones of even colour and well secured		10	0	10
	PC10. deliver maximum number of QC-okayed settings		3	0	3
	PC11. deliver complete jewellery on time by reporting problems faced or anticipated well in advance		3	0	3
		Total	75	10	65
2.G&J/N9910 Maintain IPR and respect copyright	PC1. Spot plagiarism and report	9	4	2	2
	PC2. understand rationale of patents and IPR		3	1	2
	PC3. avoid being involved in IPR violations		2	1	1
		Total	9	4	5
3. G&J/ N 9912 Coordinate with others	PC1. Understand the work output requirements	8	2	1	1
	PC2. Understand company policy and rule		2	1	1
	PC3. Deliver quality work on time as required by reporting any anticipated reasons for delays		1	0	1
	PC4. Put team over individual goals		1	0	1
	PC5. resolve conflicts and multi-task		2	1	1
		Total	8	3	5
4. G&J/ N 9914 Maintain safe work environment	PC1. Spot and report potential hazards on time	8	4	2	2
	PC2. Follow company policy and rules regarding use of hazardous materials		2	0	2

	PC3. Deliver quality work on time as required by reporting any anticipated reasons for delays		2	1	1
		Total	8	3	5