



Casting Expert - Imitation Jewellery

QP Code: G&J/Q1301

Version: 3.0

NSQF Level: 3

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G&J/Q1301: Casting Expert - Imitation Jewellery

Brief Job Description

The individual at work converts wax models into different imitation jewellery and accessory pieces through metal (Lead, zinc etc.) casting process. The individual melts the metal (Lead, zinc etc.) and then operates semi to fully-automated machines to pour and regulate the flow of molten metal into cavities created by melted wax, to produce cast jewellery pieces on mass scale. A casting expert is also known as Metal Caster in the Imitation jewellery making industry

Personal Attributes

The job requires the individual to have: integrity; attention to details; hand-eye coordination; ability to multi-task in a process driven team and work in a high temperature environment for long hours. The individual must work in small groups in an enclosed area with minimum hazards when dealing with molten metal (Lead, zinc etc.).

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [G&J/N1301: Operate casting machine](#)
2. [G&J/N9905: Maintain occupational health and safety](#)
3. [DGT/VSQ/N0101: Employability Skills \(30 Hours\)](#)

Qualification Pack (QP) Parameters

Sector	Gem & Jewellery
Sub-Sector	Imitation Jewellery
Occupation	Casting
Country	India
NSQF Level	3
Credits	NA
Aligned to NCO/ISCO/ISIC Code	NCO - 2015/7313.0703
Minimum Educational Qualification & Experience	Basic Literacy

Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	16 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	
Version	3.0

G&J/N1301: Operate casting machine

Description

This OS unit is about melting metal (Lead, zinc etc.) and cast it into jewellery / accessory pieces

Scope

The scope covers the following :

- This unit/task covers the following:
- Casting Metal (Lead, zinc etc.)
- Maintaining temperatures as required for melting different metals
- Achieving productivity
- Reporting problems

Elements and Performance Criteria

Casting Metal (Lead, zinc etc.)

To be competent, the user/individual on the job must be able to:

- PC1.** calculate metal required for the order
- PC2.** handle molten metal with less risks

Maintaining temperatures as required for melting different metals

To be competent, the user/individual on the job must be able to:

- PC3.** understand and implement melting requirements as per different metals
- PC4.** pour metal at the right temperature

Achieving Productivity

To be competent, the user/individual on the job must be able to:

- PC5.** plan properly casting cycles for the optimum utilization of machines and work as per plan
- PC6.** deliver damage free stones of even colour and well secured
- PC7.** produce number of casted jewellery/accessory pieces as per target deliverable and quality approved by the supervisor

Reporting Problems

To be competent, the user/individual on the job must be able to:

- PC8.** produce defect-free casted jewellery/ accessory pieces
- PC9.** do casting process with minimum damage to the set stones
- PC10.** produce quality control okayed cast jewellery piece
- PC11.** deliver casted jewellery pieces on time by reporting problems faced or anticipated well in advance

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on: quality, delivery timelines, safety and hazards integrity property rights (ipr), and personnel management
- KU2.** importance of individuals role in the workflow
- KU3.** reporting structure
- KU4.** metal malleability
- KU5.** methods of calculating required quantities of metal
- KU6.** production process planning
- KU7.** uses of different types of tools, consumables and machines in jewellery casting process
- KU8.** potential work hazards while handling molten metal

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** prepare notes, task lists and schedule with co-workers
- GS2.** prepare progress reports
- GS3.** read notes and put notes on design
- GS4.** read company rules and compliance documents required to complete the work
- GS5.** discuss task lists, schedules and work-loads with co-workers
- GS6.** question co-workers appropriately in order to understand the nature of problem and to make a diagnosis
- GS7.** keep seniors informed about the progress of work
- GS8.** make decisions pertaining to the concerned area of work to implement them on personal or organizational level
- GS9.** plan and organize the work according to the requirement by doing time management so the work goal can be achieved
- GS10.** use customer centric approach that provides a positive customer experience before and after the sale in order to drive repeat business, customer loyalty and profits
- GS11.** think through the problem, evaluate the possible solution (s) and suggest an optimum/ best possible solution (s)
- GS12.** identify immediate or temporary solutions to resolve delays
- GS13.** analyze activities by breaking them down into single and manageable components
- GS14.** pass on relevant information to others
- GS15.** anticipate process disruption and reasons for delay

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Casting Metal (Lead, zinc etc.)</i>	-	10	-	-
PC1. calculate metal required for the order	-	5	-	-
PC2. handle molten metal with less risks	-	5	-	-
<i>Maintaining temperatures as required for melting different metals</i>	5	10	-	-
PC3. understand and implement melting requirements as per different metals	2	3	-	-
PC4. pour metal at the right temperature	3	7	-	-
<i>Achieving Productivity</i>	5	14	-	-
PC5. plan properly casting cycles for the optimum utilization of machines and work as per plan	-	5	-	-
PC6. deliver damage free stones of even colour and well secured	-	4	-	-
PC7. produce number of casted jewellery/accessory pieces as per target deliverable and quality approved by the supervisor	5	5	-	-
<i>Reporting Problems</i>	-	16	-	-
PC8. produce defect-free casted jewellery/accessory pieces	-	3	-	-
PC9. do casting process with minimum damage to the set stones	-	5	-	-
PC10. produce quality control okayed cast jewellery piece	-	5	-	-
PC11. deliver casted jewellery pieces on time by reporting problems faced or anticipated well in advance	-	3	-	-
NOS Total	10	50	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N1301
NOS Name	Operate casting machine
Sector	Gem & Jewellery
Sub-Sector	Imitation Jewellery
Occupation	Casting
NSQF Level	3
Credits	TBD
Version	1.0
Next Review Date	27/05/2024

G&J/N9905: Maintain occupational health and safety

Description

This OS unit is about being aware of, communicating and taking steps towards minimizing potential hazards and dangers of accidents on the job and maintaining occupational health and safety

Elements and Performance Criteria

Communicating potential accident points

To be competent, the user/individual on the job must be able to:

- PC1.** spot and report potential hazards on time
- PC2.** follow company policy and rules regarding use of hazardous materials
- PC3.** attend and actively participate in the health and safety campaigns organised by the company

Using safety gear

To be competent, the user/individual on the job must be able to:

- PC4.** use or wear safety gear as per the rules of the company

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** companys policies on handling: harmful chemicals and sharp tools, safety and hazards of machines, fire safety and, disposal of harmful chemicals and materials
- KU2.** work flow involved in companys jewellery manufacturing process
- KU3.** importance of the individuals role in the workflow
- KU4.** reporting structure
- KU5.** how different chemicals react and what could be the danger from them
- KU6.** how to use machines and tools without causing bodily harm
- KU7.** fire safety education
- KU8.** first aid execution
- KU9.** disposal of hazardous chemicals, tools and materials by following prescribed environmental norms or as per company policy
- KU10.** companys policies on: safety and hazards and personnel management
- KU11.** reporting structure
- KU12.** how to use machines and tools without suffering bodily harm

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** prepare notes, task lists and schedule with co-workers
- GS2.** prepare progress reports
- GS3.** read notes and put notes on design

- GS4.** read company rules and compliance documents required to complete the work
- GS5.** discuss task lists, schedules and work-loads with co-workers
- GS6.** question co-workers appropriately in order to understand the nature of problem and to make a diagnosis
- GS7.** keep seniors informed about the progress of work
- GS8.** make decisions pertaining to the concerned area of work to implement them on personal or organizational level
- GS9.** plan and organize the work to meet health, safety and security requirements
- GS10.** use customer centric approach that provides a positive customer experience before and after the sale in order to drive repeat business, customer loyalty and profits
- GS11.** think through the problem, evaluate the possible solution (s) and suggest an optimum/ best possible solutioun (s)
- GS12.** identify immediate or temporary solutions to resolve delays
- GS13.** analyze activities by breaking them down into single and manageable components
- GS14.** anticipate process disruption and reasons for delay
- GS15.** effectively communicate the danger
- GS16.** keep all the tools in an organised manner so as to avoid accidents
- GS17.** keep the work environment safe and clean
- GS18.** report potential sources of danger
- GS19.** follow prescribed procedure in the event of an accident
- GS20.** wear appropriate safety gear to avoid an accident
- GS21.** learn from past mistakes regarding use of hazardous machines or chemicals
- GS22.** spot danger
- GS23.** report potential sources of danger
- GS24.** follow prescribed procedure in the event of an accident
- GS25.** wear appropriate safety gear to avoid an accident

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Communicating potential accident points</i>	2	4	-	-
PC1. spot and report potential hazards on time	1	1	-	-
PC2. follow company policy and rules regarding use of hazardous materials	-	2	-	-
PC3. attend and actively participate in the health and safety campaigns organised by the company	1	1	-	-
<i>Using safety gear</i>	1	1	-	-
PC4. use or wear safety gear as per the rules of the company	1	1	-	-
NOS Total	3	5	-	-

National Occupational Standards (NOS) Parameters

NOS Code	G&J/N9905
NOS Name	Maintain occupational health and safety
Sector	Gem & Jewellery
Sub-Sector	Imitation Jewellery, Cast and diamonds-set jewellery
Occupation	Designing and Product Development
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	27/05/2021
Next Review Date	27/05/2024
NSQ Clearance Date	27/05/2021

DGT/VSQ/N0101: Employability Skills (30 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

PC1. understand the significance of employability skills in meeting the job requirements

Constitutional values - Citizenship

To be competent, the user/individual on the job must be able to:

PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.

Basic English Skills

To be competent, the user/individual on the job must be able to:

PC4. speak with others using some basic English phrases or sentences

Communication Skills

To be competent, the user/individual on the job must be able to:

PC5. follow good manners while communicating with others

PC6. work with others in a team

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

PC7. communicate and behave appropriately with all genders and PwD

PC8. report any issues related to sexual harassment

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

PC9. use various financial products and services safely and securely

PC10. calculate income, expenses, savings etc.

PC11. approach the concerned authorities for any exploitation as per legal rights and laws

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

PC12. operate digital devices and use its features and applications securely and safely

PC13. use internet and social media platforms securely and safely

Entrepreneurship

To be competent, the user/individual on the job must be able to:

PC14. identify and assess opportunities for potential business

PC15. identify sources for arranging money and associated financial and legal challenges

Customer Service

To be competent, the user/individual on the job must be able to:

PC16. identify different types of customers

PC17. identify customer needs and address them appropriately

PC18. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

PC19. create a basic biodata

PC20. search for suitable jobs and apply

PC21. identify and register apprenticeship opportunities as per requirement

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use basic spoken English language

KU6. Do and dont of effective communication

KU7. inclusivity and its importance

KU8. different types of disabilities and appropriate communication and behaviour towards PwD

KU9. different types of financial products and services

KU10. how to compute income and expenses

KU11. importance of maintaining safety and security in financial transactions

- KU12.** different legal rights and laws
- KU13.** how to operate digital devices and applications safely and securely
- KU14.** ways to identify business opportunities
- KU15.** types of customers and their needs
- KU16.** how to apply for a job and prepare for an interview
- KU17.** apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** communicate effectively using appropriate language
- GS2.** behave politely and appropriately with all
- GS3.** perform basic calculations
- GS4.** solve problems effectively
- GS5.** be careful and attentive at work
- GS6.** use time effectively
- GS7.** maintain hygiene and sanitisation to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
PC3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC4. speak with others using some basic English phrases or sentences	-	-	-	-
<i>Communication Skills</i>	1	1	-	-
PC5. follow good manners while communicating with others	-	-	-	-
PC6. work with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	1	-	-
PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC8. report any issues related to sexual harassment	-	-	-	-
<i>Financial and Legal Literacy</i>	3	4	-	-
PC9. use various financial products and services safely and securely	-	-	-	-
PC10. calculate income, expenses, savings etc.	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
<i>Essential Digital Skills</i>	4	6	-	-
PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
PC13. use internet and social media platforms securely and safely	-	-	-	-
<i>Entrepreneurship</i>	3	5	-	-
PC14. identify and assess opportunities for potential business	-	-	-	-
PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
<i>Customer Service</i>	2	2	-	-
PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	1	3	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
NOS Total	20	30	-	-

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0101
NOS Name	Employability Skills (30 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	2
Credits	1
Version	1.0
Last Reviewed Date	27/05/2021
Next Review Date	27/05/2024
NSQC Clearance Date	27/05/2021

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ 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 Element/ PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 50

(**Please note:** Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
G&J/N1301.Operate casting machine	10	50	-	-	60	80
G&J/N9905.Maintain occupational health and safety	3	5	-	-	8	10
DGT/VSQ/N0101.Employability Skills (30 Hours)	20	30	0	0	50	10
Total	33	85	0	0	118	100

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Glossary

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 which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

<p>Organisational Context</p>	<p>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.</p>
<p>Technical Knowledge</p>	<p>Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.</p>
<p>Core Skills/ Generic Skills (GS)</p>	<p>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.</p>
<p>Electives</p>	<p>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.</p>
<p>Options</p>	<p>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.</p>