



# Jewellery Rapid Prototype Machine Operator

QP Code: G&J/Q2401

Version: 2.0

NSQF Level: 4

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## **G&J/Q2401: Jewellery Rapid Prototype Machine Operator**

### **Brief Job Description**

The individual interprets the three-dimensional (3D) jewellery design, feeds design parameters in the CAM machine and produces resin based prototypes. The model prototype serves as a sample for manufacturing jewellery or components.

### **Personal Attributes**

The job requires the individual to be creative and have analytical thought process, attention to details, quick response, and ability to work in a process driven team. The individual must also have problem solving skills in order to maintain CAM machine and produce defect-free prototype of product.

### **Applicable National Occupational Standards (NOS)**

#### **Compulsory NOS:**

1. [G&J/N2401: Produce resin-based jewellery prototype using milling](#)
2. [G&J/N2402: Use Rapid Prototyping Technology \(RPT\)](#)
3. [G&J/N9901: Respect and maintain IPR](#)
4. [G&J/N9902: Interact with colleagues and seniors](#)
5. [G&J/N9905: Maintain occupational health and safety](#)

### **Qualification Pack (QP) Parameters**

<b>Sector</b>	Gem & Jewellery
<b>Sub-Sector</b>	Cast and diamonds-set jewellery
<b>Occupation</b>	Master Making
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Credits</b>	NA
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO - 2015/ 7313.2401

<b>Minimum Educational Qualification &amp; Experience</b>	12th Class with 1 Year of experience relevant experience OR I.T.I (After 10th) with 1-year relevant experience OR 10th std with 3 years of relevant experience OR Jewellery designer-CAD (NSQF 4) or Designer CAD (NSQF 4)
<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	CAD Design
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	NA
<b>NSQC Approval Date</b>	
<b>Version</b>	2.0

## **G&J/N2401: Produce resin-based jewellery prototype using milling**

### **Description**

This OS unit is about producing resin based prototype using CAM machine for a range of jewellery designs. The prototype is used for manufacturing jewellery or components in large quantity

### **Scope**

This unit/task covers the following: Receive the design concepts and instructions from different sources

- collect 3-dimensional (3D) designs from merchandiser or designer
- inspect 3D designs for practicality of manufacturing model
- interpret and understand the design requirement in terms of size, weight, shape, stones, etc. Produce resin based prototype
- upload the 3D CAD design into the computer system
- set up CAM machine
- select milling fixture as per design
- fix up the frame and clamp
- calibrate the fixtures and set the positions
- select cutting beads and install using magnetic clamp
- select the resin type, size and thickness according to jewellery design
- start the machine for milling operations
- as per the design requirement, perform rolling operations
- realign the machine for double sided operations
- set the jewellery prototype onto the rolling machine
- monitor the operations
- check quality of the prototype resin based jewellery model against design Return produced resin jewellery model to merchandiser or product development head
- self-check each design in terms of surface finishing, dimensions and clarity
- ensure timely delivery of the required number of quality okayed resin jewellery models Report problems related to:
  - complexity of designs
  - faulty equipment or software operation and report them to the appropriate person
  - errors on any resin jewellery models made, and identify appropriate action to rectify
  - reasons for anticipated delays that may adversely affect delivery

### **Elements and Performance Criteria**

#### *Producing resin based prototype using CAM machine*

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

- PC1.** accurately set up and calibrated CAM machine
- PC2.** select appropriate cutting tools
- PC3.** select resin type, size and thickness according to jewellery design
- PC4.** accurately measure design dimensions (prong thickness, gap between diamonds)
- PC5.** prepare detailed note for the precision required at the manufacturing stage
- PC6.** inspect and report 3D design errors before CAM operation

### *Productivity*

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

- PC7.** timely deliver resin based prototype/model for mass production of jewellery pieces
- PC8.** produce number of prototype/model as per target given

### *Quality of output*

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

- PC9.** produce quality approved models as per the design and instructions given by merchandiser or designer
- PC10.** minimise productions disruptions because of model imperfections

## **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** companys policies on: quality, incentives, delivery standards, safety and hazards, integrity and IPR, personnel management and dress code
- KU2.** importance of the individuals role in the workflow
- KU3.** reporting structure
- KU4.** use of computers, cam workstation software and hardware, MS office, data management software, internet, etc.
- KU5.** the principles of drawing jewellery shapes
- KU6.** different type of jewellery products: rings, bracelets, pendants, necklace, etc.
- KU7.** different type of resins and their properties
- KU8.** manufacturing drawing conventions
- KU9.** basic manufacturing techniques including types of diamonds and/or gemstones settings
- KU10.** basics of design techniques, tools, principles involved in production of precision designs, blueprints, drawings, and model

## **Generic Skills (GS)**

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

- GS1.** read notes, designs and instructions in terms of master model making
- GS2.** read company rules and compliance documents required to complete the work
- GS3.** read technical drawings and 3D CAD design
- GS4.** measure the size and thickness according to jewellery design
- GS5.** assess accuracy of alignment of fixtures and resin into the CAM machine
- GS6.** mathematical calculations used in computer aided modelling
- GS7.** share work load when multiple deliverables are required
- GS8.** deliver the model on time
- GS9.** visualisation and interpretation of 3D jewellery designs
- GS10.** translation of 3D jewellery designs to prototype/model
- GS11.** use computers and software
- GS12.** use CAM machine and its applications

- GS13.** maintain CAM machine
- GS14.** improve work processes or greater productivity
- GS15.** pre-empt complexity of the design in order to increase the production speed of CAM modelling
- GS16.** provide information relevant to production department
- GS17.** suggest necessary design changes for practicality and maintaining look of the jewellery designs
- GS18.** anticipate process disruption and reasons for delay

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Producing resin based prototype using CAM machine</i>	<b>4</b>	<b>22</b>	-	-
<b>PC1.</b> accurately set up and calibrated CAM machine	1	3	-	-
<b>PC2.</b> select appropriate cutting tools	-	3	-	-
<b>PC3.</b> select resin type, size and thickness according to jewellery design	3	5	-	-
<b>PC4.</b> accurately measure design dimensions (prong thickness, gap between diamonds)	-	5	-	-
<b>PC5.</b> prepare detailed note for the precision required at the manufacturing stage	-	3	-	-
<b>PC6.</b> inspect and report 3D design errors before CAM operation	-	3	-	-
<i>Productivity</i>	-	<b>4</b>	-	-
<b>PC7.</b> timely deliver resin based prototype/model for mass production of jewellery pieces	-	2	-	-
<b>PC8.</b> produce number of prototype/model as per target given	-	2	-	-
<i>Quality of output</i>	<b>1</b>	<b>6</b>	-	-
<b>PC9.</b> produce quality approved models as per the design and instructions given by merchandiser or designer	1	3	-	-
<b>PC10.</b> minimise productions disruptions because of model imperfections	-	3	-	-
<b>NOS Total</b>	<b>5</b>	<b>32</b>	-	-



## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	G&J/N2401
<b>NOS Name</b>	Produce resin-based jewellery prototype using milling
<b>Sector</b>	Gem & Jewellery
<b>Sub-Sector</b>	Cast and diamonds-set jewellery
<b>Occupation</b>	Master making
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	30/07/2013
<b>Next Review Date</b>	31/03/2022
<b>NSQ Clearance Date</b>	05/08/2015

## **G&J/N2402: Use Rapid Prototyping Technology (RPT)**

### **Description**

This OS unit is about producing resin based prototype using rapid prototyping CAM machine for a range of jewellery designs. The prototype is used for manufacturing jewellery or components in large quantity

### **Scope**

This unit/task covers the following: Receive the design concepts and prepare for RPT machine operations

- receive CAD design file of jewellery in STL or SLC format
- use Magic software to check file for properly aligned and merged file parts
- use shell option to combine files into single part
- run checks for naked-edges to avoid machine error
- create supports on RPT for jewellery to support delicate or critical parts
- select automatic options in software for creating supports
- save Magic file
- save STL file
- Use RPT machine for generating resin prototype
- use uploading software to upload the two files on appropriate platform
- calibrate the machine for vibration minimiser
- select appropriate ratios up to required limits, for calibration
- remove calibrate plate
- select resin type for, say, casting or die-cutting
- fix platform to develop the top-down model
- note the duration for making Remove model from RPT machine
- take the platform out along with the prototype piece(s) made
- peel out the prototype
- use isopropyl alcohol to clean the prototype
- dry in UV machine
- send for casting process Report problems related to:
  - complexity of designs
  - faulty equipment or software operation and report them to the appropriate person
  - errors on any resin jewellery models made, and identify appropriate action to rectify
  - reasons for anticipated delays that may adversely affect delivery

### **Elements and Performance Criteria**

#### *Producing resin based prototype using RPT machine*

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

- PC1.** accurately set up and calibrated CAM machine
- PC2.** select appropriate cutting tools
- PC3.** select resin type, size and thickness according to jewellery design
- PC4.** accurately measure design dimensions (prong thickness, gap between diamonds)
- PC5.** prepare detailed note for the precision required at the manufacturing stage
- PC6.** inspect and report 3D design errors before CAM operation
- PC7.** upload file correctly

**PC8.** calibrate accurately for minimum vibration

**PC9.** clean the prototype properly

*Productivity*

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

**PC10.** timely deliver resin based prototype/model for mass production of jewellery pieces

**PC11.** produce number of prototype/model as per target given

*Quality of output*

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

**PC12.** produce quality approved models as per the design and instructions given by merchandiser or designer

**PC13.** minimise productions disruptions because of model imperfections

**PC14.** ensure that multiple pieces on the prototype platform do not touch one another

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

**KU1.** companys policies on: quality, incentives, delivery standards, safety and hazards, integrity and IPR, personnel management and dress code

**KU2.** importance of the individuals role in the workflow

**KU3.** reporting structure

**KU4.** use of computers, 3-D design software, CAM workstation software and hardware, MS office, data management software, internet, etc.

**KU5.** the principles of drawing jewellery shapes

**KU6.** different type of jewellery products: rings, bracelets, pendants, necklace, etc.

**KU7.** different type of resins and their properties

**KU8.** manufacturing drawing conventions

**KU9.** basic manufacturing techniques including types of diamonds and/or gemstones settings

**KU10.** basics of design techniques, tools, principles involved in production of precision designs, blueprints, drawings, and models

**KU11.** RPT machine operations

**KU12.** identification location and number of supports as well as breakage points

**KU13.** minimum thickness possible with the machine

**KU14.** wiper and milling technologies(alternatives)

### **Generic Skills (GS)**

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

**GS1.** read notes, designs and instructions in terms of master model making

**GS2.** read company rules and compliance documents required to complete the work

**GS3.** read technical drawings and 3D CAD design

**GS4.** measure the size and thickness according to jewellery design

**GS5.** assess accuracy of alignment of fixtures and resin into the CAM machine

- GS6.** mathematical calculations used in computer aided modelling
- GS7.** share work load when multiple deliverables are required
- GS8.** deliver the model on time
- GS9.** visualisation and interpretation of 3D jewellery designs
- GS10.** translation of 3D jewellery designs to prototype/model
- GS11.** use computers and software
- GS12.** use CAM machine and its applications
- GS13.** maintain CAM machine
- GS14.** improve work processes or greater productivity
- GS15.** pre-empt complexity of the design in order to increase the production speed of CAM modelling
- GS16.** provide information relevant to production department
- GS17.** suggest necessary design changes for practicality and maintaining look of the jewellery designs
- GS18.** anticipate process disruption and reasons for delay

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Producing resin based prototype using RPT machine</i>	<b>5</b>	<b>23</b>	-	-
<b>PC1.</b> accurately set up and calibrated CAM machine	1	1	-	-
<b>PC2.</b> select appropriate cutting tools	-	2	-	-
<b>PC3.</b> select resin type, size and thickness according to jewellery design	1	5	-	-
<b>PC4.</b> accurately measure design dimensions (prong thickness, gap between diamonds)	1	5	-	-
<b>PC5.</b> prepare detailed note for the precision required at the manufacturing stage	-	2	-	-
<b>PC6.</b> inspect and report 3D design errors before CAM operation	-	2	-	-
<b>PC7.</b> upload file correctly	-	2	-	-
<b>PC8.</b> calibrate accurately for minimum vibration	1	2	-	-
<b>PC9.</b> clean the prototype properly	1	2	-	-
<i>Productivity</i>	-	<b>4</b>	-	-
<b>PC10.</b> timely deliver resin based prototype/model for mass production of jewellery pieces	-	2	-	-
<b>PC11.</b> produce number of prototype/model as per target given	-	2	-	-
<i>Quality of output</i>	-	<b>6</b>	-	-
<b>PC12.</b> produce quality approved models as per the design and instructions given by merchandiser or designer	-	2	-	-
<b>PC13.</b> minimise productions disruptions because of model imperfections	-	2	-	-
<b>PC14.</b> ensure that multiple pieces on the prototype platform do not touch one another	-	2	-	-

<b>Assessment Criteria for Outcomes</b>	<b>Theory Marks</b>	<b>Practical Marks</b>	<b>Project Marks</b>	<b>Viva Marks</b>
<b>NOS Total</b>	<b>5</b>	<b>33</b>	<b>-</b>	<b>-</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	G&J/N2402
<b>NOS Name</b>	Use Rapid Prototyping Technology (RPT)
<b>Sector</b>	Gem & Jewellery
<b>Sub-Sector</b>	Cast and diamonds-set jewellery
<b>Occupation</b>	Master making
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	30/07/2013
<b>Next Review Date</b>	31/03/2022
<b>NSQ Clearance Date</b>	05/08/2015

## **G&J/N9901: Respect and maintain IPR**

### **Description**

This OS unit is about protecting companys IPR and avoiding infringement to IPR of other companies

### **Elements and Performance Criteria**

#### *Respecting and maintaining IPR*

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

- PC1.** be able to spot plagiarism and report
- PC2.** be aware of patents and ipr
- PC3.** not be involved in ipr violations

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** companys policies on ipr and plagiarism
- KU2.** reporting structure
- KU3.** companys unique product range
- KU4.** patents and ipr laws
- KU5.** how ipr protection is important for competitiveness of a company

### **Generic Skills (GS)**

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

- GS1.** effectively communicate any observed ipr violations or order leaks
- GS2.** report potential sources of violations
- GS3.** learn from past mistakes and report ipr violations on time
- GS4.** learn from past mistakes and report ipr violations on time



## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Respecting and maintaining IPR</i>	4	5	-	-
<b>PC1.</b> be able to spot plagiarism and report	2	1	-	-
<b>PC2.</b> be aware of patents and ipr	1	3	-	-
<b>PC3.</b> not be involved in ipr violations	1	1	-	-
<b>NOS Total</b>	<b>4</b>	<b>5</b>	<b>-</b>	<b>-</b>

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	G&J/N9901
<b>NOS Name</b>	Respect and maintain IPR
<b>Sector</b>	Gem & Jewellery
<b>Sub-Sector</b>	Jewellery Retail, Cast and diamonds-set jewellery
<b>Occupation</b>	Designing and Product Development
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	15/06/2015
<b>Next Review Date</b>	24/02/2025
<b>NSQ Clearance Date</b>	24/02/2022

## **G&J/N9902: Interact with colleagues and seniors**

### **Description**

This OS unit is about communicating with colleagues and seniors in order to achieve smooth and hazard-free work flow

### **Elements and Performance Criteria**

#### *Interaction with supervisor*

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

- PC1.** understand the work output requirements
- PC2.** comply with company policy and rule
- PC3.** deliver quality work on time as required by reporting any anticipated reasons for delays

#### *Interactions with colleagues and other departments*

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

- PC4.** put team over individual goals
- PC5.** be able to resolve conflicts
- PC6.** learn how to multi-task relevant activities

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** companys policies on: preferred language of communication, reporting and escalation policy, quality delivery standards, and personnel management
- KU2.** reporting structure
- KU3.** communicate effectively
- KU4.** build team coordination

### **Generic Skills (GS)**

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

- GS1.** read and write preferred language of communication as prescribed by the company
- GS2.** read job sheets and interpret technical details mentioned in the job sheet
- GS3.** how to spot and communicate potential areas of disruptions to work process and report the same
- GS4.** when to report to supervisor and when to deal with a colleague individually, depending on the type of concern
- GS5.** improve work processes by interacting with others and adopting best practices
- GS6.** spot process disruptions and delays and report and communicate with solutions

## Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interaction with supervisor</i>	<b>1</b>	<b>3</b>	-	-
<b>PC1.</b> understand the work output requirements	1	1	-	-
<b>PC2.</b> comply with company policy and rule	-	1	-	-
<b>PC3.</b> deliver quality work on time as required by reporting any anticipated reasons for delays	-	1	-	-
<i>Interactions with colleagues and other departments</i>	<b>2</b>	<b>2</b>	-	-
<b>PC4.</b> put team over individual goals	1	-	-	-
<b>PC5.</b> be able to resolve conflicts	-	1	-	-
<b>PC6.</b> learn how to multi-task relevant activities	1	1	-	-
<b>NOS Total</b>	<b>3</b>	<b>5</b>	-	-

## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	G&J/N9902
<b>NOS Name</b>	Interact with colleagues and seniors
<b>Sector</b>	Gem & Jewellery
<b>Sub-Sector</b>	Jewellery Retail, Cast and diamonds-set jewellery
<b>Occupation</b>	Designing and Product Development
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	15/07/2015
<b>Next Review Date</b>	24/02/2025
<b>NSQ Clearance Date</b>	24/02/2022

## **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 hazardsand 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 solution (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>	<b>2</b>	<b>4</b>	-	-
<b>PC1.</b> spot and report potential hazards on time	1	1	-	-
<b>PC2.</b> follow company policy and rules regarding use of hazardous materials	-	2	-	-
<b>PC3.</b> attend and actively participate in the health and safety campaigns organised by the company	1	1	-	-
<i>Using safety gear</i>	<b>1</b>	<b>1</b>	-	-
<b>PC4.</b> use or wear safety gear as per the rules of the company	1	1	-	-
<b>NOS Total</b>	<b>3</b>	<b>5</b>	-	-



## National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	G&J/N9905
<b>NOS Name</b>	Maintain occupational health and safety
<b>Sector</b>	Gem & Jewellery
<b>Sub-Sector</b>	Imitation Jewellery, Cast and diamonds-set jewellery
<b>Occupation</b>	Designing and Product Development
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	27/05/2021
<b>Next Review Date</b>	27/05/2024
<b>NSQC Clearance Date</b>	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 : 70**

(**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

<b>National Occupational Standards</b>	<b>Theory Marks</b>	<b>Practical Marks</b>	<b>Project Marks</b>	<b>Viva Marks</b>	<b>Total Marks</b>	<b>Weightage</b>
G&J/N2401.Produce resin-based jewellery prototype using milling	5	32	-	-	37	35
G&J/N2402.Use Rapid Prototyping Technology (RPT)	5	33	-	-	38	35
G&J/N9901.Respect and maintain IPR	4	5	-	-	9	10
G&J/N9902.Interact with colleagues and seniors	3	5	-	-	8	10
G&J/N9905.Maintain occupational health and safety	3	5	-	-	8	10
<b>Total</b>	<b>20</b>	<b>80</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>

## Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training
<b>CAD</b>	Computer Aided Design
<b>CAM</b>	Computer Aided Manufacturing
<b>IPR</b>	Intellectual Property Rights

## Glossary

<b>Sector</b>	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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	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.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	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.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	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.
<b>Knowledge and Understanding (KU)</b>	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><b>Organisational Context</b></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><b>Technical Knowledge</b></p>	<p>Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.</p>
<p><b>Core Skills/ Generic Skills (GS)</b></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><b>Electives</b></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><b>Options</b></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>