



QUALIFICATIONS HANDBOOK

A comprehensive information handbook to
Foster Career in Manufacturing Sector

Capital Goods & Strategic Skill Council
NCVET Recognised Awarding Body



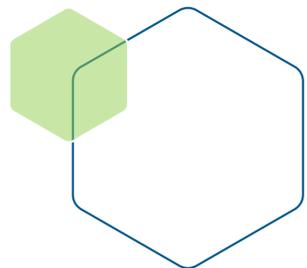


Skilling is building a better India.

If we have to move India towards development then Skill Development should be our mission.

Shri. Narendra Modi

Hon'ble Prime Minister of India





Working towards creating greater synergy between education and skills as outlined in National Education Policy.

Shri. Dharmendra Pradhan

Hon'ble Minister, Government of India
Minister of Education
Minister of Skill Development and Entrepreneurship



Skilling to become more important in post-Covid world.

Shri. Rajeev Chandrasekhar

Hon'ble Minister of State, Government of India
Minister of State for Skill Development and Entrepreneurship
Minister of State for Electronics and Information Technology



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About Capital Goods and Strategic Skill Council

Capital Goods & Strategic Skill Council is an autonomous Industry Led Body, Not for Profit Organization registered under Societies Registration Act, 1860. CGSSC is a unique initiative to play proactive role and bridge the gap by creating a vibrant eco-system for quality training and skill development in the manufacturing sector.



CGSSC
TRANSFORMING MANUFACTURING LANDSCAPE



VISION

Make Atmanirbhar Bharat Global Manufacturing Hub



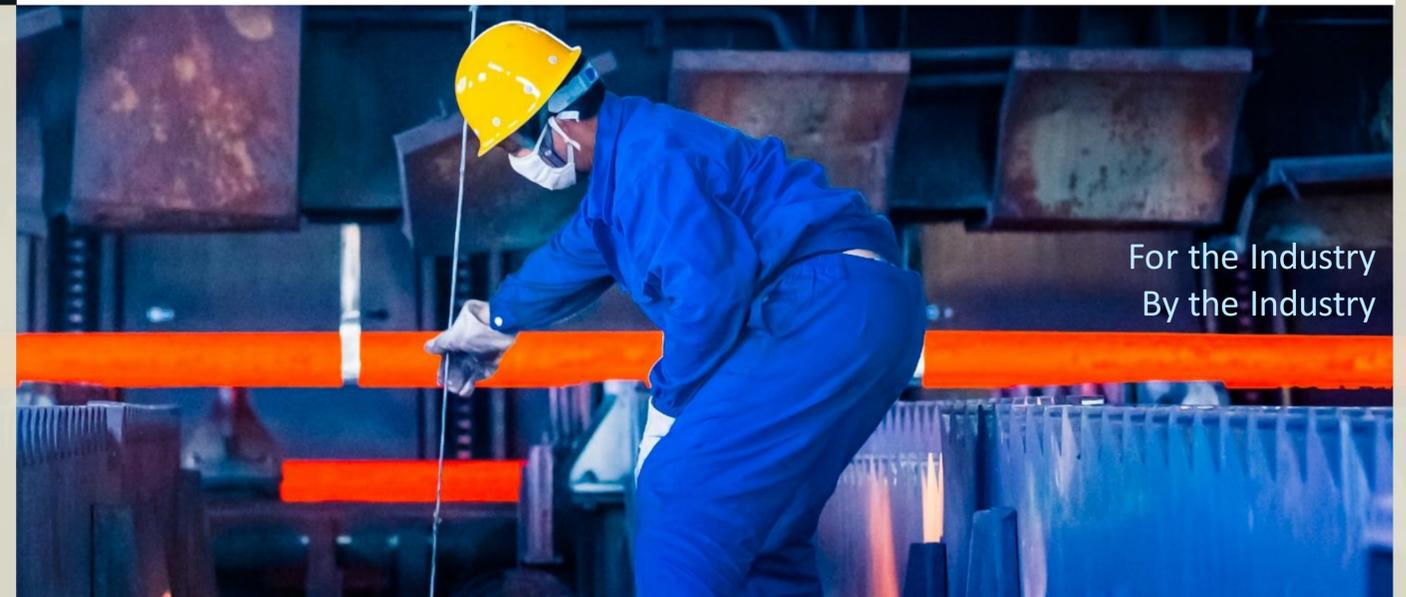
MISSION

Industry ready skilled workforce with global 'Best Practices'



KEY STAKEHOLDERS

Ministry, Industry, Academia, Trade Associations, Training Partners, Students



For the Industry
By the Industry

National Council for Vocational Education and Training (NCVET) has recognised Capital Goods and Strategic Skill Council as its Awarding Body.



Sub-Sectors

Capital Goods and Strategic Skill Council

India's Capital Goods Manufacturing Industry serves as a strong base for its engagement across sectors such as Engineering, Construction, Infrastructure and Consumer Goods, amongst others.

\$43.2 Billion
Market Size
Capital Goods Industry in India



Defence Equipment Manufacturing



Fire-Fighting & Safety Equipment



Homeland Security



Ship Build & Ship Repair~ Marine



Heavy Electrical Equipment
Market Size: \$24.2 Billion



Process Plant Equipment
Market Size: \$3.7 Billion



Earth-moving & Mining Machinery
Market Size: \$3.3 Billion



Printing Machinery
Market Size: \$3.01 Billion



Food Processing Machinery
Market Size: \$2.4 Billion



Dies, Moulds and Press Tools
Market Size: \$2.3 Billion



Textile Machinery
Market Size: \$1.8 Billion



Machine Tools
Market Size: \$1.4 Billion



Plastic Machinery
Market Size: \$0.5 Billion



Metallurgical Machinery
Market Size: \$0.4 Billion

Promoters & Industry Bodies

Capital Goods and Strategic Skill Council

Industry Partners

Capital Goods and Strategic Skill Council



and many more...

Roles & Responsibilities

Capital Goods and Strategic Skill Council

- ✓ Develop National Occupational Standards based Qualifications
- ✓ Industry led Quality Skilling, Assessment & Certification
- ✓ Establish Structured Labor Market Information System
- ✓ Train the 'Trainers & Assessors'
- ✓ Promote Industry-Academia Interface

Skilling Initiatives

- ✓ Cluster Specific Initiatives
- ✓ Industry Partnerships & Skill implementation
- ✓ Facilitate Placement & promote Apprenticeship in various sub-sectors
- ✓ Conduct Skill competitions in alignment with IndiaSkills & WorldSkills
- ✓ Knowledge Partner in Skilling and Setting up Center of Excellence
- ✓ Upskilling & Reskilling existing workforce in various Manufacturing Domain through RPL & various Schemes



Achievements

Capital Goods and Strategic Skill Council



-  **37** Qualifications Developed
-  **23** Qualifications for Futuristic Job Roles
-  **300+** Accredited Training Partners
-  **7** Accredited Assessment Agencies
-  **1.5 Lakh+** Trained & Certified Ready Work Force
-  **1000+** Certified Trainers
-  **900+** Certified Assessors
-  **1000+** Industry Partners
-  **10** Centre of Excellence
-  **Dedicated Placement Portal:** <https://www.cgscjobs.org/>
-  **WorldSkills Competition** - Successfully Conducted Skill Competitions for 7 Trades under CGSSC

and growing each day...



Growth Drivers

Capital Goods Industry



Ageing Equipment Requires Auto Replacement

Opportunity for Transmission & Distribution (T&D) sector



Huge Market Potential

Target industry size of \$ 100 bn by 2022



The Potential for Closing Import-export Gap

The Capital Goods imports to India is approximately 3X the exports



Massive Power Capacity Addition in Future

Infrastructure, Power, Mining, Oil & Gas, Steel & Automotive



Nuclear Capacity Expansion

Significant business opportunity

Schemes to Promote Manufacturing

The National Capital Goods Policy (2016) envisages increasing production of capital goods from Rs. 230,000 crores in 2014-15 to Rs. 750,000 crores in 2025. It envisages increasing exports from 27% in 2014-15 to 40% in 2025 of production while increasing share of domestic production in India's demand from 60% to 80%, thus making India a net exporter of capital goods. Other schemes Make In India, aims to increase contribution of manufacturing to GDP to 25%.

Scheme II - Enhancement of Competitiveness of Capital Goods Sector



Job Roles

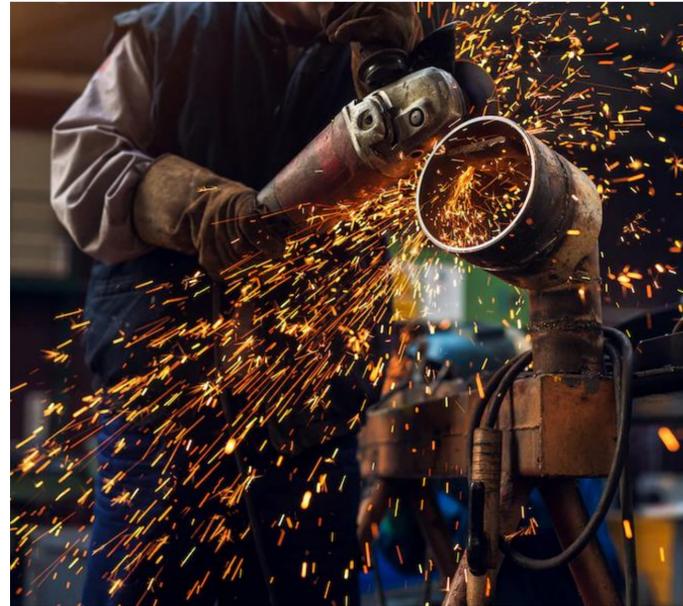
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- 1 Machining (CNC, EDM, Conventional)
- 2 Cutting, Welding and Quality Testing
- 3 Fitting and Assembly
- 4 Designing (2D and 3D)
- 5 Coating and Painting
- 6 Machine Installation and Commissioning
- 7 Quality - Testing/Inspection
- 8 Calibration and Instrumentation
- 9 Forging
- 10 Maintenance
- 11 Material Preparation
- 12 Shop Floor Management



Qualifications

Capital Goods and Strategic Skill Council



Qualifications

Capital Goods and Strategic Skill Council

- | | | |
|---|---|---|
| 1 Assistant Manual Metal Arc Welding
▪ Shielded Metal Arc Welding Welder | 17 Lab Technician - Radiographic Testing | 31 Service Engineer - Installation and Commissioning
▪ Optional: Service Engineer - Breakdown service |
| 2 Calibration Technician | 18 Maintenance - Fitter Mechanical | 32 Sheet Metal Worker
▪ Hand Tools and manually operated machines
▪ Optional: Grinder - Hand and Hand Held Power Tool |
| 3 CNC Operator Turning | 19 Manual Metal Arc Welding
▪ Shielded Metal Arc Welding Welder | 33 Stainless Steel Fabricator |
| 4 CNC Operator Vertical Machining Center | 20 Metal Inert Gas/ Metal Active Gas/ Gas Metal Arc Welder (MIG/MAG/GMAW) | 34 Stud Welding Operator |
| 5 CNC Programmer | 21 Operator - Conventional Milling | 35 Technician Instrumentation |
| 6 CNC Setter and Operator
▪ Electro Discharge Machine (Spark Erosion) | 22 Operator - Conventional Surface Grinding Machines | 36 Tool and Die Maker |
| 7 Designer Mechanical | 23 Operator - Conventional Turning | 37 Tungsten Inert Gas Welder (GTAW) |
| 8 Design Engineer - Hull and Structures | 24 Oxy Fuel Gas Cutter | |
| 9 Design Engineer - Marine Piping and Engineering | 25 Polisher, Optional: Polisher (Manual) | |
| 10 Draughtsman Mechanical | 26 Production Engineer | |
| 11 Draughtsman Piping | 27 Quality Inspector
▪ Manufactured Components | |
| 12 Fitter Electrical and Electronic Assembly | 28 Resistance Spot Welding Machine Operator | |
| 13 Fitter Fabrication | 29 Senior Manual Metal Arc Welder / Shielded Metal Arc Welder
Optional: Submerged Arc Welder (SAW) | |
| 14 Fitter Mechanical Assembly | 30 Senior Tungsten Inert Gas Welder (GTAW) | |
| 15 Forger | | |
| 16 Lab Technician - Metal Testing | | |

1	Job Role: Assistant Manual Metal Arc Welding-Shielded Metal Arc Welding Welder		
	QP Code: CSC/Q0202	NQR Code: 2022/CCM/CGSC/05580	
	Occupation: Welding and Cutting	NSQF Level: 2	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
The incumbent in the job is primarily involved in all manual metal arc welding (MMAW) and gas cutting operations performed on carbon and low alloy steels.

Minimum Education Qualification
Ability to read and write, wherever required

- Applicable National Occupational Standards (NOS)**
1. CSC/N1335: Follow the health and safety practices at the workplace
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0202: Support MMAW welder in welding and cutting process

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2	Job Role: Calibration Technician		
	QP Code: CSC/Q0801	NQR Code: 2022/CCM/CGSC/05569	
	Occupation: Calibration and Instrumentation	NSQF Level: 4	
	Reviewed on: 3/31/2022	Validity: 9/30/2022	

Brief Job Description
A Calibration Technician is responsible for setting, adjusting, validating mechanical, pneumatic, hydraulic, electrical, electronic measuring and control instruments using the relevant reference standards as per the applicable procedures.

- Minimum Education Qualification**
- 8th Class Pass + ITI (2years) with 2 years of experience in the relevant field
 - OR 10th Class Pass with 2 years of experience in the relevant field
 - OR 10th Class Pass + ITI (1 year) with 1 year of experience in the relevant field
 - OR 10th Class Pass + ITI (2 years) OR 12th Class Pass with 6 months of experience in the relevant field
 - OR Certified in NSQF-L3 Operator - Calibration and Instrumentation with 2 years of experience in the relevant field

- Applicable National Occupational Standards (NOS)**
1. CSC/N1335: Follow the health and safety practices at work
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0801: Calibrate hydraulic, pneumatic and mechanical measuring and control equipment
 4. CSC/N0802: Calibrate electrical and electronic measuring and control equipment

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3	Job Role: CNC Operator Turning		
	QP Code: CSC/Q0115	NQR Code: 2022/CCM/CGSC/05592	
	Occupation: Machining	NSQF Level: 4	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
A CNC Operator - Turning is responsible for setting up the CNC turning machine, work holding devices, and tooling; loading the machine operating programs.

- Minimum Education Qualification**
- 8th Class Pass + ITI (2years) with 2 years of experience in the relevant field
 - OR 10th Class Pass with 2 years of experience in the relevant field
 - OR 10th Class Pass + ITI (1 year) with 1 year experience in the relevant field
 - OR 10th Class Pass + ITI (2 years)
 - OR 12th Class Pass with 6 months of experience in the relevant field
 - OR Certified in NSQF-L3 Operator - Conventional Turning with 2 years of experience in the relevant field

- Applicable National Occupational Standards (NOS)**
1. CSC/N1335: Follow the health and safety practices at work
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0120: Set up the CNC turning machine for operations
 4. CSC/N0115: Carry out turning operations using the CNC machine

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4	Job Role: CNC Operator Vertical Machining Center		
	QP Code: CSC/Q0116	NQR Code: 2022/CCM/CGSC/05591	
	Occupation: Machining	NSQF Level: 4	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
A CNC Operator - Vertical Machining Centre is responsible for setting up Vertical Machining Centre (VMC), cutting tools and work holding devices for machining a variety of metal and non-metal components.

- Minimum Education Qualification**
- 8th Class Pass + ITI (2years) with 2 years of experience in the relevant field
 - OR 10th Class Pass with 2 years of experience in the relevant field
 - OR 10th Class Pass + ITI (1 year) with 1 year of experience in the relevant field
 - OR 10th Class Pass + ITI (2 years) OR 12th Class Pass with 6 months of experience in the relevant field
 - OR Certified in NSQF-L3 Operator - Calibration and Instrumentation with 2 years of experience in the relevant field

- Applicable National Occupational Standards (NOS)**
1. CSC/N1335: Follow the health and safety practices at work
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0123: Set the CNC VMC for operations
 4. CSC/N0116: Carry out machining using the CNC VMC

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5	Job Role: CNC Programmer		
	QP Code: CSC/Q0401	NQR Code: 2022/CCM/CGSC/05564	
	Occupation: Design	NSQF Level: 5	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
A CNC Programmer is responsible for programming commercial Computer Numerical Control (CNC) factory machines that turn raw materials such as plastic and metals into usable components.

Minimum Education Qualification
Graduation in relevant field
OR 3 Year Diploma (After 10th) in the relevant field with 2 years of experience in the relevant field
OR 10th + ITI (2 years) in the relevant field with 3 years of relevant experience in the relevant field
OR Certified in NSQF-L4 Draughtsman - Mechanical with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0401: Program Computer Numerically Controlled (CNC) machines
4. CSC/N0415: Assist in process improvements and machine maintenance



6	Job Role: CNC Setter and Operator - Electro Discharge Machine (Spark Erosion)		
	QP Code: CSC/Q0121	NQR Code: 2022/CCM/CGSC/05572	
	Occupation: Machining	NSQF Level: 4	
	Reviewed on: 3/31/2022	Validity: 9/30/2022	

Brief Job Description
The job holder is responsible for setting up the Computer Numerically Controlled (CNC) Electro Discharge Machine (EDM) for use and operating it as per the standard procedure.

Minimum Education Qualification
8th Class Pass + ITI (2years) with 2 years of experience in the relevant field
OR 10th Class Pass with 2 years of experience in the relevant field
OR 10th Class Pass + ITI (1 year after Class 10th) with 1 year of experience in the relevant field
OR 10th Class Pass + ITI (2 years after Class 10th) OR 12th Class Pass with 6 months of experience in the relevant field OR Certified in NSQF-L3 Operator - Non-Conventional Electro Discharge Machine (Spark Erosion) with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0121: Set up the CNC EDM for machining components
4. CSC/N0118: Operate the CNC EDM to machine components



7	Job Role: Design Engineer - Hull and Structures		
	QP Code: CSC/Q0406	NQR Code: 2022/CCM/CGSC/05598	
	Occupation: Machining	NSQF Level: 7	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
Design Engineer - Hull and Structures is responsible for ship design which includes form, stability, maneuverability, layout design and structure integrity.

Minimum Education Qualification
B.Tech (Degree in Naval Architecture) with 5 years of experience in the relevant field.

Applicable National Occupational Standards (NOS)
1. CSC/N1338: Work effectively in a collaborative environment (SM)
2. CSC/N1337: Follow the health and safety practices at shipbuilding work
3. SGJ/N1703: Adopt sustainable practices at the workplace
4. CSC/N0409: Prepare for designing of hull and structures of naval ships
5. CSC/N0410: Design hull and hull structures of naval ship
6. CSC/N0411: Design the internal structures for naval ships
7. CSC/N0412: Perform post-designing activities for ships and marine systems



8	Job Role: Design Engineer - Marine Piping and Engineering		
	QP Code: CSC/Q0407	NQR Code: 2022/CCM/CGSC/05599	
	Occupation: Design	NSQF Level: 7	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
Design Engineer - Marine piping and engineering is responsible for design of various engineering system(s) of ship.

Minimum Education Qualification
B.E./B.Tech (Degree in Marine Engineering / Mechanical Engineering) with 5 years of experience in marine systems design.

Applicable National Occupational Standards (NOS)
1. CSC/N1338: Work effectively in a collaborative environment (SM)
2. CSC/N1337: Follow the health and safety practices at shipbuilding work
3. SGJ/N1703: Adopt sustainable practices at the workplace
4. CSC/N0414: Prepare for designing marine systems for naval ships
5. CSC/N0413: Design marine systems
6. CSC/N0412: Perform post-designing activities for ships and marine systems



9	Job Role: Designer Mechanical		
	QP Code: CSC/Q0405	NQR Code: 2022/CCM/CGSC/05570	
	Occupation: Design	NSQF Level: 5	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
 A Designer Mechanical is responsible for determining the client's requirements with respect to the mechanical devices and equipment; creating the design brief; validating the design; allocating resources for each activity; and ensuring the designing process is completed within the agreed deadlines and in compliance with the relevant regulations.

Minimum Education Qualification
 B. Tech/B.E. (Mechanical) OR 3 Year Diploma - Mechanical (After 10th) in the relevant field with 2 years of experience in the relevant field OR 10th + ITI (2 years) in the relevant field with 2 years of relevant experience in the relevant field OR 12th Class Pass with 4 years of experience in the relevant field OR Certified in NSQF-L4 Draughtsman - Mechanical with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)
 1. CSC/N1335: Follow the health and safety practices at work
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0405: Determine the client's requirement and create a design brief
 4. CSC/N0402: Create and modify 2D mechanical engineering drawings using the CAD system
 5. CSC/N0408: Create and modify 3D mechanical engineering models using the CAD system
 6. CSC/N0407: Develop prototypes as per the design brief and carry out testing and production

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10	Job Role: Draughtsman Mechanical		
	QP Code: CSC/Q0402	NQR Code: 2022/CCM/CGSC/05565	
	Occupation: Design	NSQF Level: 4	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
 A Draughtsman Mechanical is responsible for developing 2D drawings of design specifications for mechanical equipment and components.

Minimum Education Qualification
 8th Class Pass + ITI - Fitter (2years) with 2 years of experience in the relevant field
 OR 10th Class Pass with 2 years of experience in the relevant field
 OR 10th Class Pass + ITI (1 year) with 1 year of experience in the relevant field
 OR 10th Class Pass + ITI (2 years) OR 12th Class Pass with 6 months of experience in the relevant field
 OR Certified in NSQF-L3 Operator - CAM Operator with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)
 1. CSC/N1335: Follow the health and safety practices at work
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0402: Create and modify 2D mechanical engineering drawings using CAD system

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11	Job Role: Draughtsman Piping		
	QP Code: CSC/Q0403	NQR Code: 2022/CCM/CGSC/05571	
	Occupation: Machining	NSQF Level: 4	
	Reviewed on: 3/31/2022	Validity: 9/30/2022	

Brief Job Description
 A Draughtsman – Piping is responsible for selecting the appropriate equipment and drawing software to create and edit isometric and spool drawings, along with drawings for process flows, and Piping and Instrumentation (P&ID) diagrams.

Minimum Education Qualification
 8th Class Pass + ITI - Fitter (2years) with 2 years of experience in the relevant field
 OR 10th Class Pass with 2 years of experience in the relevant field
 OR 10th Class Pass + ITI (1 year) with 1 year of experience in the relevant field
 OR 10th Class Pass + ITI (2 years)
 OR 12th Class Pass with 6 months of experience in the relevant field
 OR Certified in NSQF-L3 Operator - CAM Operator with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)
 1. CSC/N1335: Follow the health and safety practices at work
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0403: Create and edit 2D piping drawings using the CAD

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12	Job Role: Fitter Electrical and Electronic Assembly		
	QP Code: CSC/Q0305	NQR Code: 2022/CCM/CGSC/05568	
	Occupation: Fitting and Assembly	NSQF Level: 3	
	Reviewed on: 3/31/2022	Validity: 3/31/2025	

Brief Job Description
 The job holder is responsible for assembling electrical and electronic panels, equipment/ systems, components, sub-assemblies, etc.

Minimum Education Qualification
 Ability to Read and Write with 5 years of experience in the relevant field
 OR 5th Class Pass with 3 years of experience in the relevant field
 OR 8th Class Pass with 2 years of experience in the relevant field
 OR Class 8th + ITI (2 years) (Electrical and other relevant fields)
 Or Class 10th

Applicable National Occupational Standards (NOS)
 1. CSC/N1335: Follow the health and safety practices at work
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0305: Assemble and wire electrical components and systems to mechanical equipment
 4. CSC/N0306: Assemble and wire electronic equipment and systems to mechanical equipment

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Job Role: Fitter Fabrication**QP Code:** CSC/Q0303**NQR Code:** 2022/CCM/CGSC/05586**Occupation:** Fitting and Assembly**NSQF Level:** 3**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

The incumbent on the job roles carrying out fitting and fabrication operations.

Minimum Education Qualification

Ability to Read and Write with 5 years experience in the relevant field

Or 5th Class Pass with 3 years experience in the relevant field

Or 8th Class Pass with 1year experience in the relevant field

Or 8th Class Pass + ITI (1year)

Or Assistant Manual Metal Welder NSQF – Level 2 with 1year experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace

2. CSC/N1336: Coordinate with co-workers to achieve work efficiency

3. CSC/N0201: Manually cut metal and metal alloys using oxy-fuel gases

4. CSC/N0204: Manually weld carbon and low alloy steels by using Metal Arc Welding (MMAW)/ Shielded Metal Arc Welding (SMAW)

5. CSC/N0303: Perform fitting operations on metal components

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Job Role: Fitter Mechanical Assembly**QP Code:** CSC/Q0304**NQR Code:** 2022/CCM/CGSC/05587**Occupation:** Fitting and Assembly**NSQF Level:** 3**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

The incumbent in the job is responsible for performing machining, fitting and assembly activities to produce machinery or machine components.

Minimum Education Qualification

Ability to Read and Write with 5 years experience in the relevant field

Or 5th Class Pass with 3 years experience in the relevant field

Or 8th Class Pass with 1year experience in the relevant field

Or 8th Class Pass + ITI (1year)

Or Assistant Manual Metal Welder NSQF – Level 2 with 1year experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace

2. CSC/N1336: Coordinate with co-workers to achieve work efficiency

3. CSC/N0304: Perform fitting and assembly operations on metal components

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Job Role: Forger**QP Code:** CSC/Q1101**NQR Code:** 2022/CCM/CGSC/05590**Occupation:** Forging**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 9/30/2022**Brief Job Description**

The incumbent on the job performs forging operations so that the material forms the shape as per the requirement.

Minimum Education Qualification

Ability to Read and Write with 5 years experience in the relevant field

Or 5th Class Pass with 3 years experience in the relevant field

Or 8th Class Pass with 1year experience in the relevant field

Or 8th Class Pass + ITI (1year)

Or Sheet metal worker NSQF - Level 2 with 1 year experience

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace

2. CSC/N1336: Coordinate with co-workers to achieve work efficiency

3. CSC/N1001: Perform heat treatment operations on ferrous & non-ferrous metals and alloys

4. CSC/N1101: Perform forging techniques on ferrous & non-ferrous metals and alloys

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Job Role: Lab Technician - Metal Testing**QP Code:** CSC/Q0602**NQR Code:** 2022/CCM/CGSC/05575**Occupation:** Quality**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 9/30/2022**Brief Job Description**

A Lab Technician – Metal Testing is responsible for carrying out metal testing on a variety of metals in a lab.

Minimum Education Qualification

8th Class Pass + ITI (2years) with 2 years of experience in the relevant field

OR 10th Class Pass with 2 years of experience in the relevant field

OR 10th Class Pass + ITI (1 year after Class 10th) with 1 year of experience in the relevant field

OR 10th Class Pass + ITI (2 years after Class 10th)

OR 12th Class Pass with 6 months of experience in the relevant field

OR Certified in NSQF-L3 Operator – Quality with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at work

2. CSC/N1336: Coordinate with co-workers to achieve work efficiency

3. CSC/N0602: Carry out metal testing in the lab

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Job Role: Lab Technician - Radiographic Testing**QP Code:** CSC/Q0603**NQR Code:** 2022/CCM/CGSC/05576**Occupation:** Quality**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 9/30/2022**Brief Job Description**

A Lab Technician – Radiographic Testing is responsible for preparing the test zone, radiographic testing tools and equipment, test material, and carrying out a variety of radiographic tests.

Minimum Education Qualification

8th Class Pass + ITI (2years) with 2 years of experience in the relevant field
 OR 10th Class Pass with 2 years of experience in the relevant field
 OR 10th Class Pass + ITI (1 year) with 1 year of experience in the relevant field
 OR 10th Class Pass + ITI (2 years)
 OR 12th Class Pass with 6 months of experience in the relevant field
 OR Certified in NSQF-L3 Operator - Quality with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0603: Carry out radiographic testing on various materials

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Job Role: Maintenance - Fitter Mechanical**QP Code:** CSC/Q0901**NQR Code:** 2022/CCM/CGSC/05589**Occupation:** Maintenance**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

The incumbent in the job performs maintenance of faulty equipment.

Minimum Education Qualification

10th Class with 2 years of experience in the relevant field
 OR ITI Fitter
 OR 12th Pass with 6 Months of experience in the relevant field
 OR Fitter Mechanical Assembly – 3 with 1 year of experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0901: Perform maintenance activities on mechanical equipment

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Job Role: Manual Metal Arc Welding - Shielded Metal Arc Welding Welder**QP Code:** CSC/Q0204**NQR Code:** 2022/CCM/CGSC/05581**Occupation:** Welding and Cutting**NSQF Level:** 3**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

The incumbent in the job is responsible for performing manual metal arc welding (MMAW).

Minimum Education Qualification

Ability to Read and Write with 5 years experience
 OR 5th Class Pass with 3 years experience
 OR 8th Class Pass with 1year experience
 OR 8th Class Pass + ITI (1year)
 OR Assistant Manual Metal Welder NSQF – Level 2 with 1year experience

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0201: Manually cut metal and metal alloys using oxy-fuel gases
4. CSC/N0204: Manually weld carbon and low alloy steels by using Metal Arc Welding (MMAW)/ Shielded Metal Arc Welding (SMAW)

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Job Role: Metal Inert Gas/ Metal Active Gas/ Gas Metal Arc Welder (MIG/MAG/GMAW) (Optional: Flux cored Arc Welder (Semi-Automatic))**QP Code:** CSC/Q0209**NQR Code:** 2022/CCM/CGSC/05595**Occupation:** Welding and Cutting**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

The incumbent in the job is responsible for performing metal inert gas/metal active gas welding (MIG/MAG) for welding joints.

Minimum Education Qualification

10th Class Pass with 2 years of experience in the relevant field
 OR 10th Class Pass + ITI (welding)
 OR 12th Pass with 6 Months of experience in the relevant field
 OR Shielded Metal Arc Welder NSQF Level 3 with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Use basic health and safety practices at the workplace
 2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
 3. CSC/N0209: Manually weld metals by using MIG/MAG welding
 4. CSC/N0201: Manually cut metal and metal alloys using oxy-fuel gases
 5. CSC/N0207: Manually cut metal materials using plasma arc
- Optional NOS:**
6. CSC/N0205: Perform semi-automatic flux cored arc welding process to prepare joints

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Job Role: Operator - Conventional Milling	
QP Code: CSC/Q0108	NQR Code: 2022/CCM/CGSC/05566
Occupation: Machining	NSQF Level: 3
Reviewed on: 3/31/2022	Validity: 3/31/2025

Brief Job Description
An Operator - Conventional Milling is responsible for milling a range of metal and non-metal components using a horizontal or vertical conventional milling machine.

Minimum Education Qualification
Ability to Read and Write with 5 years of experience in the relevant field
OR 5th Class Pass with 3 years of experience in the relevant field
OR 8th Class Pass with 2 years of experience in the relevant field
OR Class 8th + ITI (2 years) (Mechanical/Electrical and other relevant fields)
OR Class 10th

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0108: Carry out milling operations using conventional milling machines



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Job Role: Operator - Conventional Surface Grinding Machines	
QP Code: CSC/Q0109	NQR Code: 2022/CCM/CGSC/05567
Occupation: Machining	NSQF Level: 3
Reviewed on: 3/31/2022	Validity: 9/30/2022

Brief Job Description
An Operator -Conventional Surface Grinding Machines is responsible for carrying out surface grinding operations on a variety of component surfaces.

Minimum Education Qualification
Ability to Read and Write with 5 years of experience in the relevant field
OR 5th Class Pass with 3 years of experience in the relevant field
OR 8th Class Pass with 2 years of experience in the relevant field
OR Class 8th + ITI (2 years) (Mechanical/Electrical and other relevant fields)
OR Class 10th

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0109: Carry out grinding operations using conventional grinding machines



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Job Role: Operator - Conventional Turning	
QP Code: CSC/Q0110	NQR Code: 2022/CCM/CGSC/05573
Occupation: Machining	NSQF Level: 3
Reviewed on: 3/31/2022	Validity: 3/31/2025

Brief Job Description
This job holder is responsible for carrying out turning operations using a conventional turning machine.

Minimum Education Qualification
Ability to Read and Write with 5 years of experience in the relevant field
OR 5th Class Pass with 3 years of experience in the relevant field
OR 8th Class Pass with 1 year of experience in the relevant field
OR Class 8th + ITI (Mechanical/Electrical and other relevant fields)
OR Class 10th

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0110: Operate conventional turning machine to machine a variety of components



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Job Role: Oxy Fuel Gas Cutter	
QP Code: CSC/Q0201	NQR Code: 2022/CCM/CGSC/05579
Occupation: Welding and Cutting	NSQF Level: 2
Reviewed on: 3/31/2022	Validity: 3/31/2025

Brief Job Description
The incumbent in the job is responsible for performing manual oxy-fuel cutting on different materials.

Minimum Education Qualification
Ability to read and write, wherever required OR 5th Class.

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Follow the health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0201: Manually cut metal and metal alloys using oxy-fuel gases



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Job Role: Polisher, Optional: Polisher (Manual)**QP Code:** CSC/Q0113**NQR Code:** 2022/CCM/CGSC/05854**Occupation:** Coating and Painting**NSQF Level:** 2**Reviewed on:** 5/26/2022**Validity:** 5/26/2025**Brief Job Description**

This job holder is responsible for carrying out mechanical polishing on a variety of surfaces, removing contamination and defects such as scratches and abrasions.

Minimum Education Qualification

Ability to read and write.

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0113: Carry out polishing using the relevant machinery, tools and equipment

Options(Not mandatory):

4. CSC/N0703: Carry out manual polishing on various metals and metal alloy components

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Job Role: Production Engineer**QP Code:** CSC/Q1201**NQR Code:** 2022/CCM/CGSC/05577**Occupation:** Shop Floor Management**NSQF Level:** 5**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

A Production Engineer is responsible for supervising production processes such as machining, fabrication, welding, surface finishing, assembly, etc.

Minimum Education Qualification

B.E/B.Tech (Mechanical)

OR 3 Year Diploma (Mechanical) in the relevant field with 2 years of experience in the relevant field

OR 10th + ITI (2 years) in the relevant field with 3 years of relevant experience in the relevant field

OR 12th Class Pass with 4 years of experience

OR Certified in NSQF-L4 Materials - Engineer with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N1201: Plan and manage the production process

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Job Role: Quality Inspector - Manufactured Components**QP Code:** CSC/Q0601**NQR Code:** 2022/CCM/CGSC/05588**Occupation:** Quality Inspection**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

The incumbent in the job is responsible for conducting inspection and maintaining quality of the forged, casted and machined components.

Minimum Education Qualification

10th Class Pass with 2 Years of relevant experience in production or quality

OR 10th Class Pass + ITI in Mechanical (2 years)

OR 12th Class Pass with 6 months experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0601: Inspect quality and dimensional accuracy of manufactured components

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Job Role: Resistance Spot welding Machine Operator**QP Code:** CSC/Q0206**NQR Code:** 2022/CCM/CGSC/05582**Occupation:** Welding and Cutting**NSQF Level:** 3**Reviewed on:** 3/31/2022**Validity:** 9/30/2022**Brief Job Description**

The incumbent in the job is responsible for performing mechanized resistance spot welding.

Minimum Education Qualification

Ability to Read and Write with 5 years experience

OR 5th Class Pass with 3 years experience

OR 8th Class Pass with 1year experience

OR 8th Class Pass + ITI (1year)

OR Assistant Manual Metal Welder NSQF – Level 2 with 1year experience

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0206: Weld joints using resistance spot welding machines

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Job Role: Senior Manual Metal Arc Welder/ Shielded Metal Arc Welder (Optional: Submerged Arc Welder (SAW))

QP Code: CSC/Q0208	NQR Code: 2022/CCM/CGSC/05594
Occupation: Welding and Cutting	NSQF Level: 4
Reviewed on: 3/31/2022	Validity: 3/31/2025

Brief Job Description
The incumbent in the job is responsible for supervising and performing MMAW/SMAW process to produce various joints on different materials.

Minimum Education Qualification
10th Class Pass with 2 years of experience in the relevant field
OR 10th Class Pass + ITI (welding)
OR Shielded Metal Arc Welder NSQF Level 3 with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Use basic health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0208: Supervise and perform Manual Metal Arc Welding (MMAW)/ Shielded Metal Arc Welding (SMAW)
4. CSC/N0201: Manually cut metal and metal alloys using oxy-fuel gases
5. CSC/N0207: Manually cut metal materials using plasma arc
Optional NOS:
6. CSC/N0211: Weld joints by Submerged Arc Welding process

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Job Role: Senior Tungsten Inert Gas Welder (GTAW)

QP Code: CSC/Q0213	NQR Code: 2022/CCM/CGSC/05585
Occupation: Welding and Cutting	NSQF Level: 5
Reviewed on: 3/31/2022	Validity: 3/31/2025

Brief Job Description
The incumbent in the job is responsible for supervising and performing GTAW welding process.

Minimum Education Qualification
12th Pass + ITI Welding (2 years) with 2 years of experience in the relevant field
OR 12th Pass with 4 years of experience in the relevant field
OR GTAW Welder Level – 4 with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Follow the health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0213: Supervise and perform Tungsten Inert Gas (TIG) Welding on metals

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Job Role: Service Engineer- Installation and Commissioning Optional- Service Engineer - Breakdown service

QP Code: CSC/Q0502	NQR Code: 2022/CCM/CGSC/05593
Occupation: Service	NSQF Level: 4
Reviewed on: 3/31/2022	Validity: 9/30/2022

Brief Job Description
A Service Engineer – installation and commissioning are responsible for installing, commissioning and maintaining a variety of mechanical equipment.

Minimum Education Qualification
8th Class Pass + ITI (2years) with 2 years of experience in the relevant field OR 10th Class Pass with 2 years of experience in the relevant field OR 10th Class Pass + ITI (1 year after Class 10th) with 1 year of experience in the relevant field OR 10th Class Pass + ITI (2 years after Class 10th) OR 12th Class Pass with 6 months of experience in the relevant field OR Certified in NSQF-L3 Operator Installation Services with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)
Compulsory NOS:
1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0501: Install the mechanical equipment
4. CSC/N0502: Commission the mechanical equipment
Optional NOS:
1. CSC/N0503: Provide the breakdown service for mechanical equipment

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Job Role: Sheet Metal Worker - Hand Tools and manually operated machines Optional - Grinder - Hand and Hand Held Power Tool

QP Code: CSC/Q0301	NQR Code: 2022/CCM/CGSC/05596
Occupation: Fitting and Assembly	NSQF Level: 2
Reviewed on: 3/31/2022	Validity: 3/31/2025

Brief Job Description
The incumbent in the job is responsible for performing basic sheet metal cutting, forming and assembly operations.

Minimum Education Qualification
Ability to Read and Write OR 5th Class

Applicable National Occupational Standards (NOS)
1. CSC/N1335: Follow the health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0301: Perform basic sheet metal cutting, forming and assembly operations
Optional NOS:
4. CSC/N0302: Grind surface using hand and hand-held power tools

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Job Role: Stainless Steel Fabricator**QP Code:** CSC/Q0307**NQR Code:** 2020/CCM/CGSC/03893**Occupation:** Fabrication, Fitting and Assembly**NSQF Level:** 5**Reviewed on:** 10/15/2019**Validity:** 10/17/2022**Brief Job Description**

A Stainless Steel Fabricator designs, cuts, forms, welds, joins, polishes and finishes the stainless steel structure/component/product as per work requirements.

Minimum Education Qualification

8th standard passed

Applicable National Occupational Standards (NOS)

1. CSC/N0310 Plan and prepare for stainless steel fabrication
2. CSC/N0311 Perform cutting and forming tasks for stainless steel fabrication
3. CSC/N0312 Perform pre-welding operations for stainless steel fabrication
4. CSC/N0208 Manually weld carbon steel/ low alloy steel and austenitic stainless steel using Metal Arc Welding/ Shielded Metal Arc Welding
5. CSC/N0212 Perform basic Tungsten Inert Gas (TIG) Welding also known as Gas Tungsten Arc Welding (GTAW) Welding
6. CSC/N0214 Manually weld stainless steel using Metal Inert Gas (MIG) welding technique
7. CSC/N0313 Perform finishing and installation of fabricated stainless steel structures
8. CSC/N1335 Use basic health and safety practices at the workplace
9. CSC/N1336 Work effectively with others

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Job Role: Stud Welding Operator**QP Code:** CSC/Q0210**NQR Code:** 2022/CCM/CGSC/05583**Occupation:** Welding and Cutting**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 9/30/2022**Brief Job Description**

The incumbent in the job roles is responsible for performing stud welding for securing studs and pins to metal surfaces.

Minimum Education Qualification

- 10th Class with 2 years of experience in the relevant field
OR ITI Welding
OR 12th Pass with 6 Months of experience in the relevant field
OR Manual/Shielded Metal Arc Welder Level – 3

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Use basic health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0210: Weld stud joints by stud welding process

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Job Role: Technician Instrumentation**QP Code:** CSC/Q0802**NQR Code:** 2022/CCM/CGSC/05563**Occupation:** Calibration and Instrumentation**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

A Technician Instrumentation is responsible for dismantling, repairing and replacing a range of instruments and faulty components in the instrumentation system.

Minimum Education Qualification

- 8th Class Pass + ITI (2years) with 2 years of experience in the relevant field
OR 10th Class Pass with 2 years of experience in the relevant field
OR 10th Class Pass + ITI (1 year after Class 10th) with 1 year of experience in the relevant field
OR 10th Class Pass + ITI (2 years after Class 10th) OR 12th Class Pass with 6 months of experience in the relevant field OR Certified in NSQF-L3 Operator - Calibration and Instrumentation with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at work
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0801: Calibrate the hydraulic, pneumatic, mechanical, electrical and electronic measuring and control equipment
4. CSC/N0803: Carry out maintenance activities on instrumentation and control equipment

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Job Role: Tool and Die Maker**QP Code:** CSC/Q0306**NQR Code:** 2022/CCM/CGSC/05597**Occupation:** Fitting and Assembly**NSQF Level:** 5**Reviewed on:** 3/31/2022**Validity:** 3/31/2025**Brief Job Description**

The incumbent at this job performs various machining, fitting and assembling activities to manufacture tool and die as per the work requirements.

Minimum Education Qualification

- 12th Pass + ITI Fitter or Machinist with 2 years of relevant experience
OR 12th Pass with 4 years of experience
OR CNC programmer - Level - 4 with 2 years of relevant experience

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace
2. CSC/N1336: Coordinate with co-workers to achieve work efficiency
3. CSC/N0307: Prepare for the making of tools and die
4. CSC/N0316: Perform machining operations
5. CSC/N0308: Perform fitting operations
6. CSC/N0309: Perform assembly operations

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Job Role: Tungsten Inert Gas Welder (GTAW)**QP Code:** CSC/Q0212**NQR Code:** 2022/CCM/CGSC/05584**Occupation:** Welding and Cutting**NSQF Level:** 4**Reviewed on:** 3/31/2022**Validity:** 9/30/2022**Brief Job Description**

The incumbent in the job is responsible for performing GTAW welding process.

Minimum Education Qualification

10th Class with 2 years of experience

OR 10th class + ITI - Welding (2years)

OR 12th Pass with 6 Months of experience

OR Shielded Metal Arc Welder NSQF Level 3 with 2 years of experience in the relevant field

Applicable National Occupational Standards (NOS)

1. CSC/N1335: Follow the health and safety practices at the workplace

2. CSC/N1336: Coordinate with co-workers to achieve work efficiency

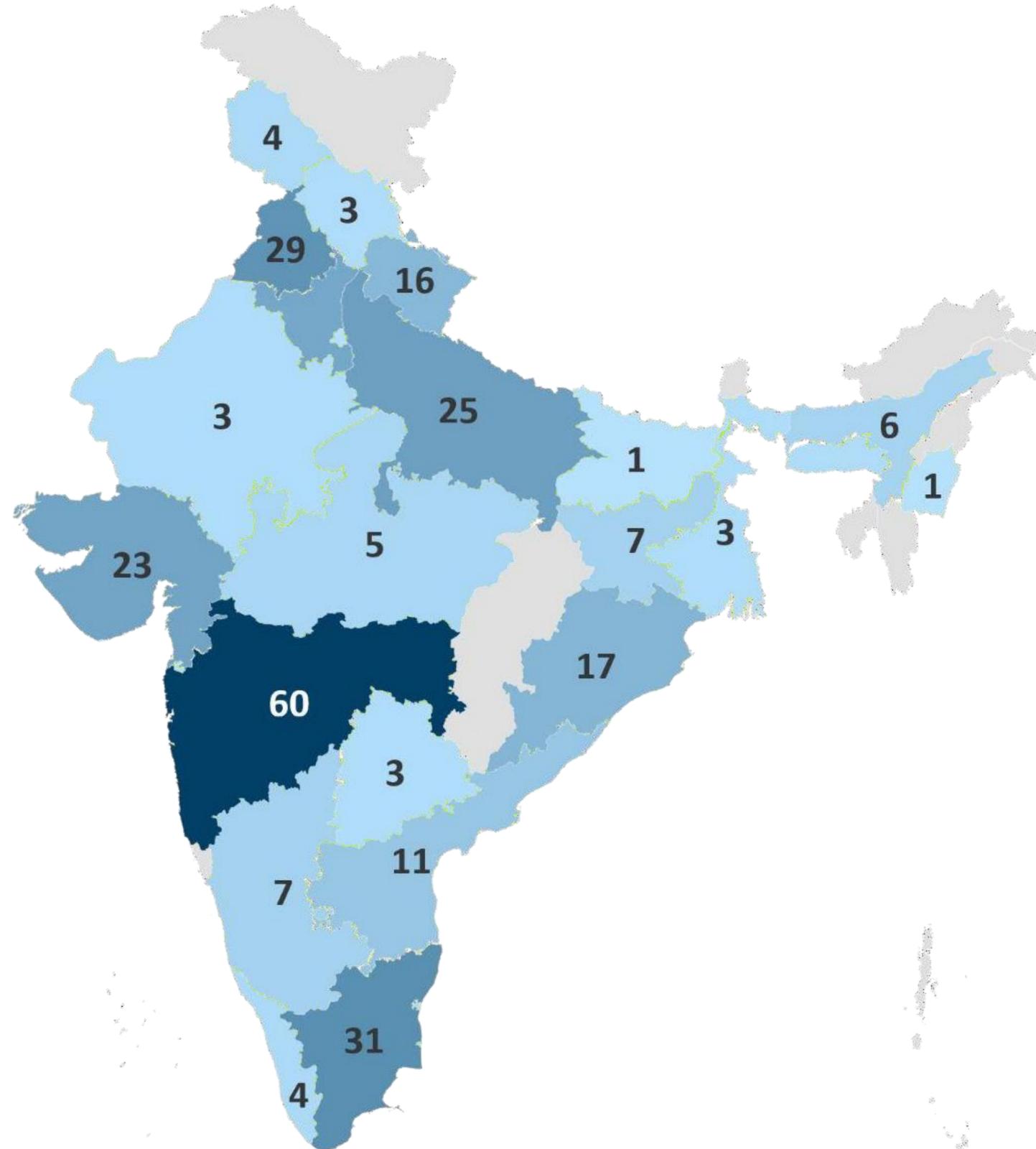
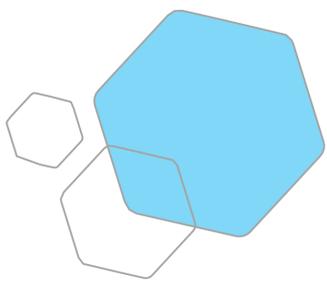
3. CSC/N0212: Perform Tungsten Inert Gas (TIG) Welding on metals

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