



Skilling India in Electronics

# QUALIFICATIONS HANDBOOK

A comprehensive information handbook to  
**foster career in Electronics Sector**

**Electronics Sector Skills  
Council of India**

[www.essc-india.org](http://www.essc-india.org)





***Skilling is building a better India.***

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

**Shri. Narendra Modi**

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 Electronics Sector Skills Council of India

The Electronics Sector Skills Council of India (ESSCI) is promoted by the major Electronics Industry Associations with the support of National Skill Development Corporation (NSDC). ESSCI is a key catalyst in addressing the challenges of employability, employment and livelihoods in the Electronics System Design and Manufacturing (ESDM) Sector.

ESSCI brings together all stakeholders:



Industry

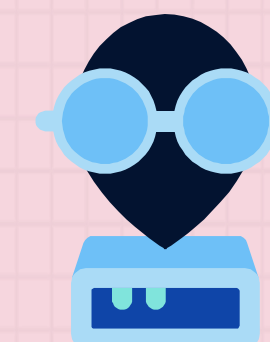


Labour



Academia

**National Council for Vocational Education and Training (NCVET) has recognised Electronics Sector Skills Council of India as its Awarding Body**



### VISION

Our vision is to create a robust eco-system for creating a future ready workforce for the Electronics System Design and Manufacturing sectors worldwide for sustainable Livelihood.



### MISSION

To establish a structured mechanism with Industry to strengthen the existing Skill Development system through E-skilling, R&D, Innovation & adoption of state-of-the-art technologies to reach masses for sustainable growth of the ESDM sector.



# Promoters

## Electronics Sector Skills Council of India



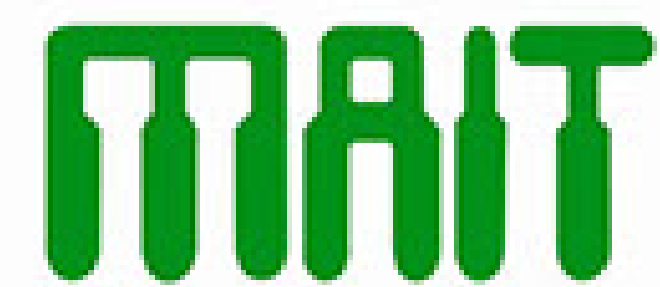
Electronic Industries  
Association of India



India Electronics &  
Semiconductor Association



Consumer Electronics and Appliances  
Manufacturers Association



Manufacturer's Association  
for Information Technology



Electrical Lamp and Component  
Manufacturers Association of India



Indian Printed  
Circuit Association



# Roles & Responsibilities

Electronics Sector Skills Council of India



SKILLED RESOURCES



# WorldSkills - 'Olympics of Skills'

## ESSCI Preparation for WorldSkills



World Skills Competition is the largest skill competition in the world and is also considered as 'Olympics of Skills'. This competition brings students, industries, and educators together to give youth the chance to compete, experience, and learn how to become the best in their skill of choice. India created history at the 45th World Skills competition at Kazan, Russia in August 2019 by winning one gold, one silver, two bronze and 19 medallion of excellence medals. In the upcoming WorldSkills Competition, ESSCI is managing the following Skills:

- Electronics
- Industrial Control
- Mobile Robotics
- Industry 4.0
- Electrical Installation
- Refrigeration and Air Conditioning
- Mechatronics
- IT Network System Administration

## IndiaSkills National Winners 2021



**Badrinath Roy**  
IT Network System Administration  
**GOLD MEDALLIST**



**Anurag**  
RAC  
**GOLD MEDALLIST**



**Mohd. Faisal PK, Mohd. Siyad P**  
Mobile Robotics  
**SILVER MEDALLIST**



**Karthi C**  
Electronics  
**SILVER MEDALLIST**

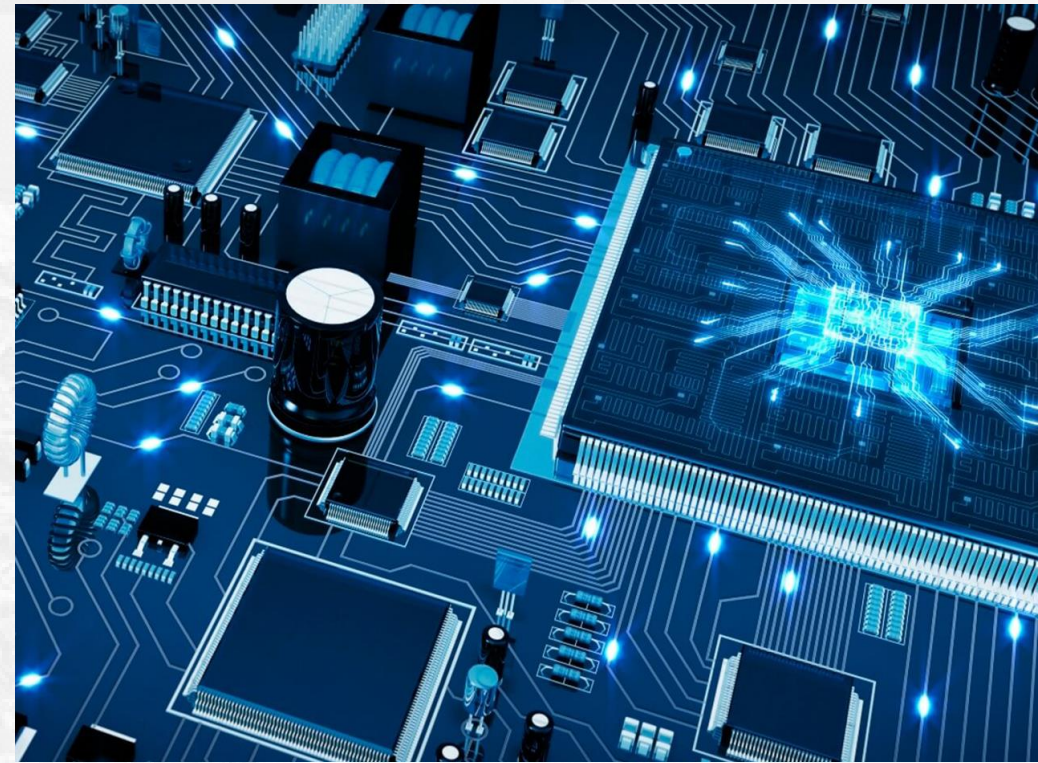


**Kaliraj M**  
Electrical Installation  
**SILVER MEDALLIST**



# Sub-Sectors

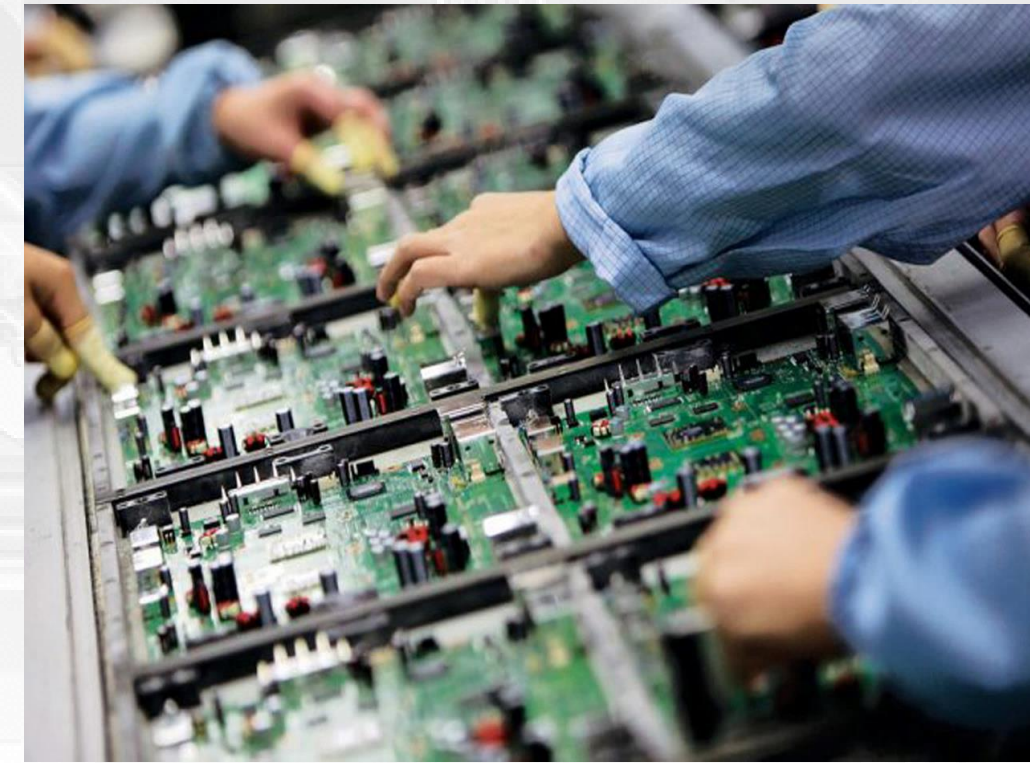
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Consumer Electronics  
& IT Hardware



Communication & Broadcasting



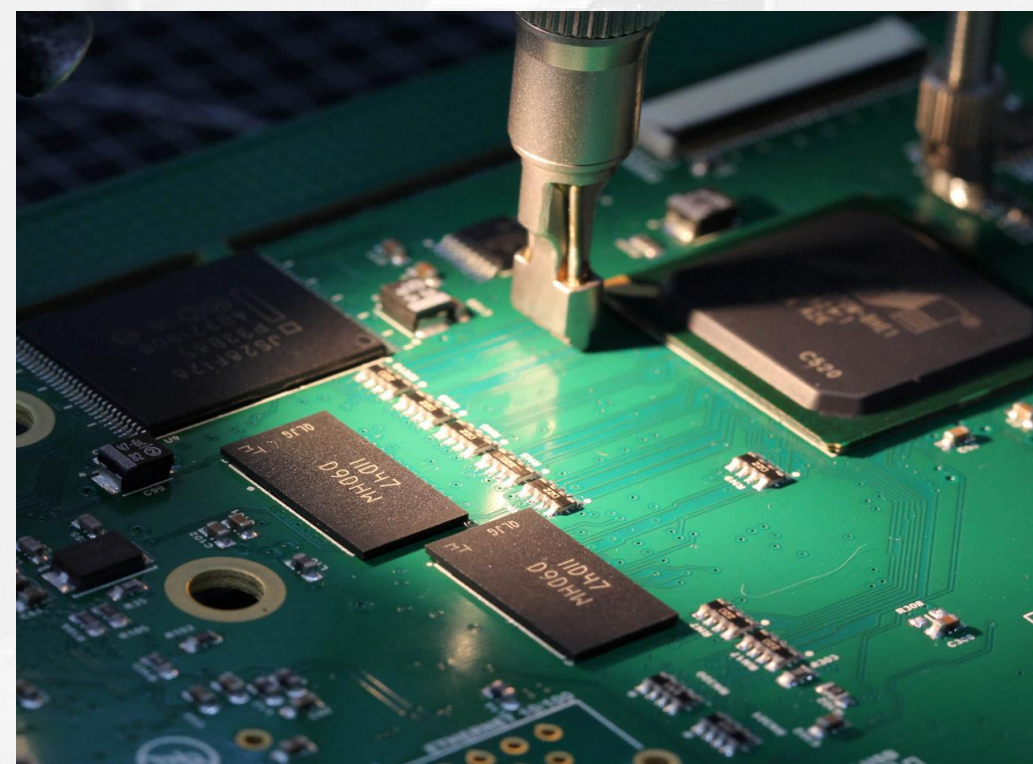
Electronics  
Manufacturing Services



E-Mobility & Battery



Industrial Automation



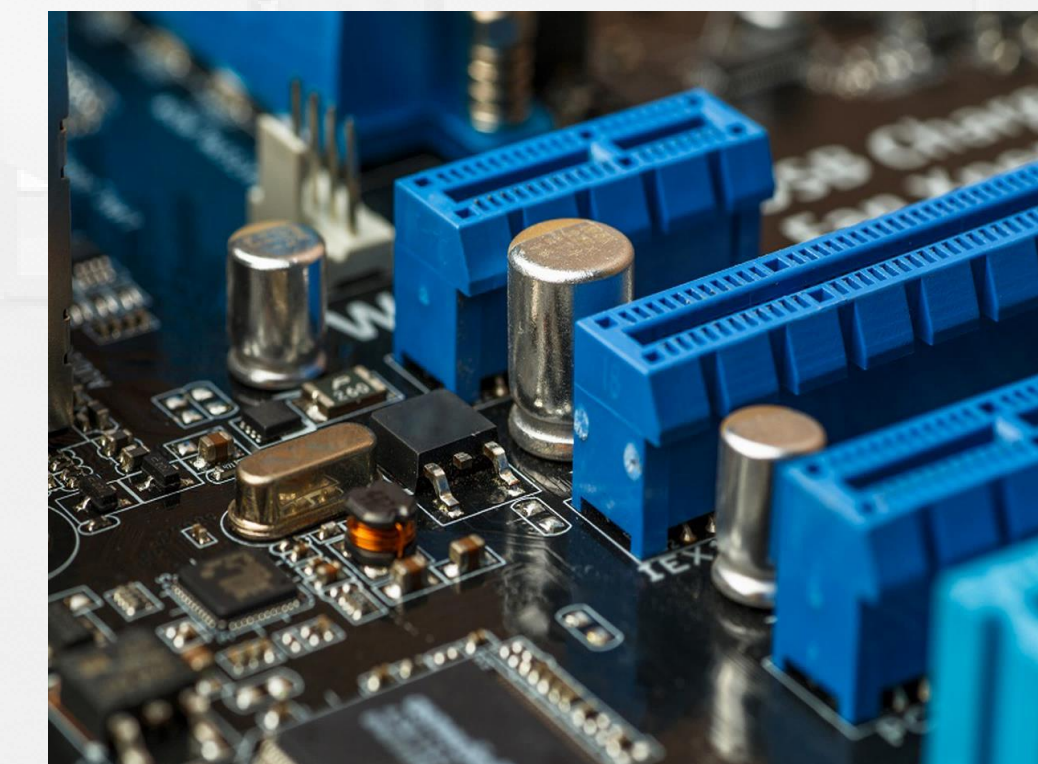
PCB Design & Manufacturing



Solar & LED



Security & Surveillance

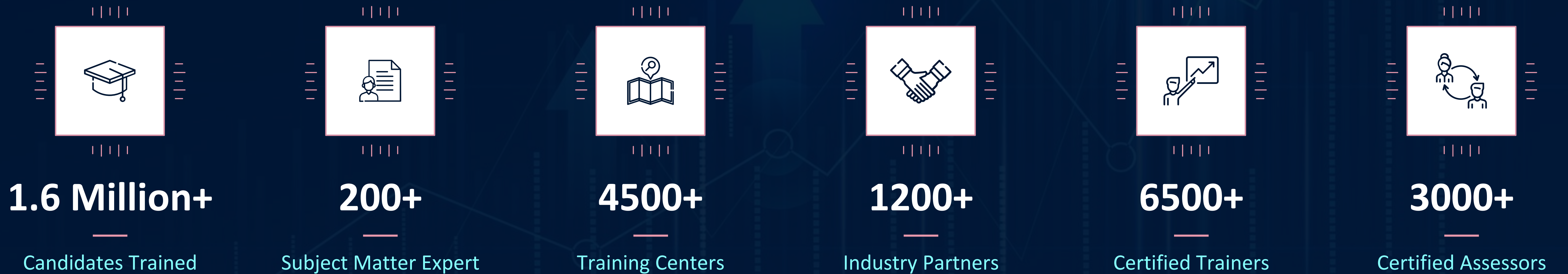


Semiconductor & Components



# Achievements

Electronics Sector Skills Council of India



and growing each day...

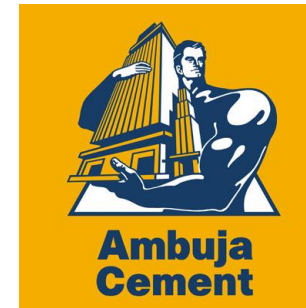


# Industry Partners

Electronics Sector Skills Council of India



FESTO



VOLTAS



and many more...



# Growth Drivers

## Electronics System Design and Manufacturing

### Large Consumer Base

1.2 billion consumers engaged in rapid urbanization and digitization with increasing penetration of electronic products.

### Third Largest Startup Ecosystem

New innovations, start-ups, designs, and technology propelling digitization across India.

### Electric Mobility Market

Electric Mobility Market Size to hit USD 1,507.21 billion, at CAGR of 27.2% by 2028. Electric Vehicle market is expected to be worth around at least Rs. 475 billion by 2025.

### PLI Schemes

Production Linked Incentive (PLI) Schemes for Large Scale Electronics Manufacturing and IT Hardware.

### Growth of ESDM Industry

The Indian ESDM industry is expected to have one of the highest growth rates, representing a demand CAGR of 25% from 2022 to 2027.

### Ease of Doing Business

'Make in India' and 'Digital India' initiatives along with Government's impetus on EoDB.

### Semicon India Program

Schemes for setting up Semiconductor Fabs, Display Fabs, Compound Semiconductors, OSAT / ATMP, Design Linked Incentive (DLI).

### Schemes to Promote Manufacturing

Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS), Modified Electronics Manufacturing Clusters Scheme (EMC 2.0)

### Increased Local Demand

Consistent local demand for electronic products, along with increasing manufacturing investment, is anticipated to catapult the industry into a high growth phase.

### Technology Advancement

Rollout of 5G & industrial use of Internet of Things (IoT) technology. Robust R&D Ecosystem.

### India - A Drone Hub

For the boost of the domestic manufacturing of drones in India, Govt. launched the PLI Scheme worth Rs. 120 crore and it aims to make India a drone hub by 2030

### Job Lucrative Sector

The Indian ESDM industry currently characterized by the low value addition is expected to witness investment in manufacturing and thereby is likely transform to a high value-adding sector by 2025.



# Futuristic Job Roles

## Electronics Sector, India

Battery System Assembly Operator

Battery System Design Engineer

Battery System Repair Technician

Building Management System Project Manager

Drone Manufacturing and Assembly Technician

Drone Service Technician

Electronic Hardware Assembly Engineer

Electronics Machine Maintenance Executive

Embedded Full stack IoT Analyst

Embedded Product Design Engineer - Technical Lead

Embedded Software Engineer

IoT Hardware Analyst

Solar LED Technician

Solar Panel Installation Technician

Mechanical Engineering and Plumbing General Manager

Mechatronics Maintenance Specialist

Mechatronics Designer and System Integrator

Motor and Controller Design Engineer

Motor and Controller Repairing Technician

VLSI Design Engineer



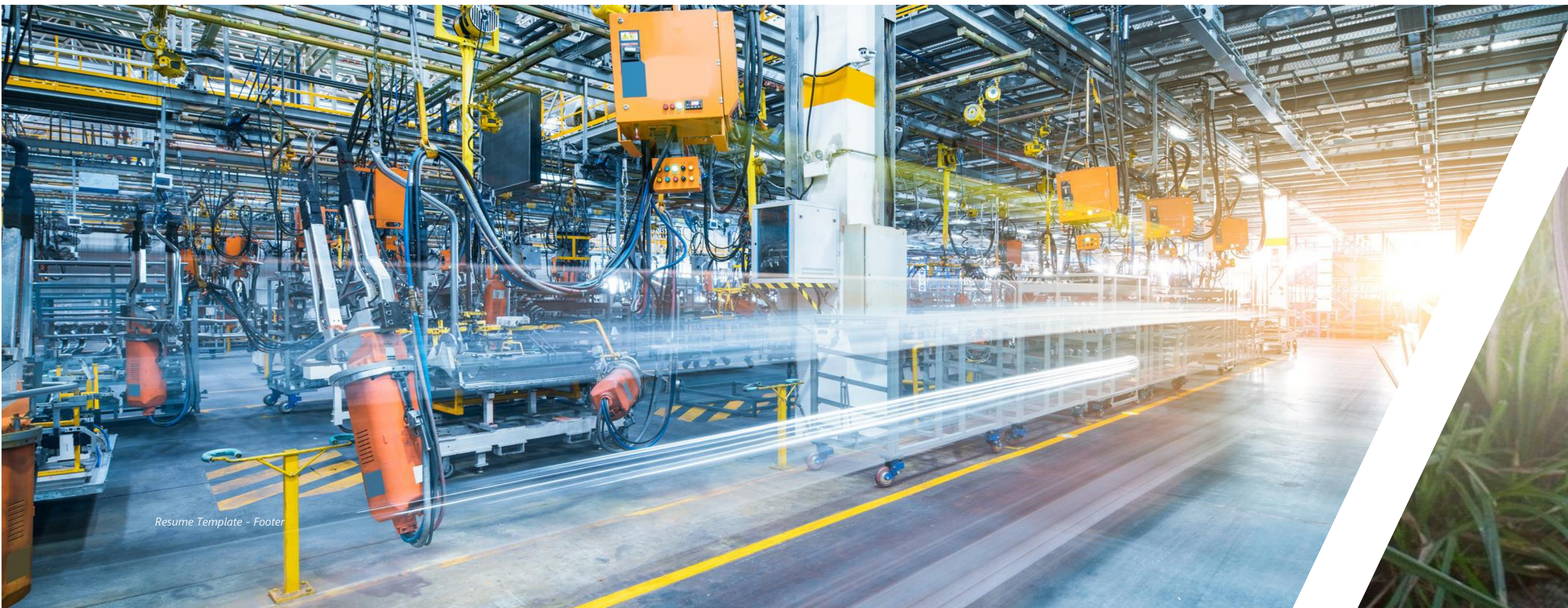
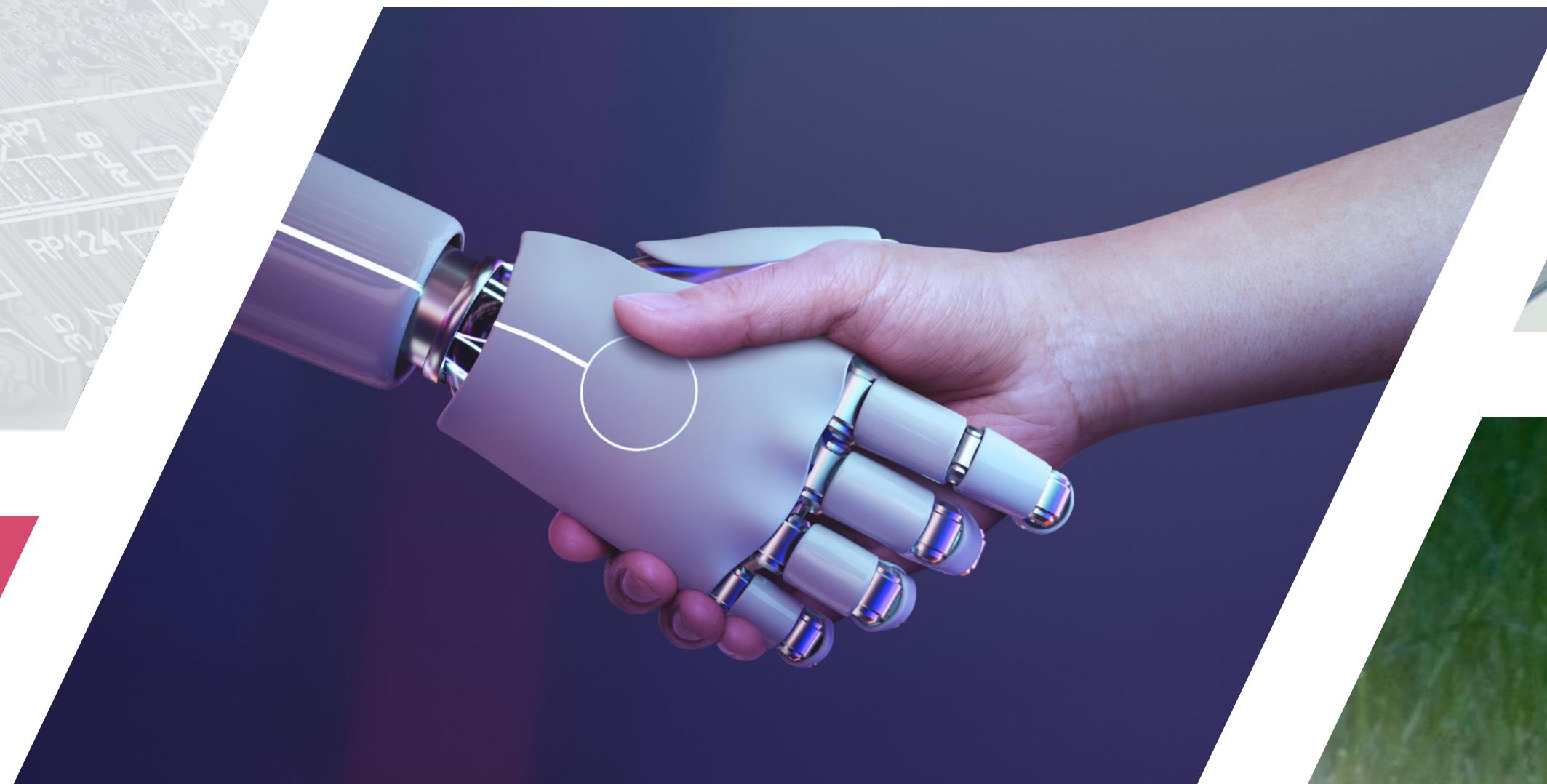




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# Qualifications

## Sub-Sector Wise





# Qualifications

## Sub-Sector Wise

### Semiconductor & Components

1. Winding Operator ELE/Q0101
2. Welding Operator Electronics ELE/Q0102
3. Die Attach and Wire Bonding Engineer ELE/Q0117
4. Laser Marking & Cutting Process Engineer ELE/Q0118
5. Molding Process Engineer ELE/Q0119
6. Quality Analysis & Reliability Engineer ELE/Q0120
7. Failure Analysis & Reliability Engineer ELE/Q0121
8. Wafer Test and Sort Engineer ELE/Q0122
9. Package Design Engineer ELE/Q0123
10. IC Package Engineer ELE/Q0124
11. Wafer Back Grinding Engineer ELE/Q0125
12. Wafer Dicing Engineer ELE/Q0126
13. Solder Ball Attach - Process Engineer ELE/Q0127
14. Saw Singulation Engineer ELE/Q0128
15. Sr. Executive- Business Development ELE/Q1101
16. VLSI Design Engineer ELE/Q1201
17. Embedded Software Engineer ELE/Q1501
18. Embedded Full Stack IoT Analyst ELE/Q1404
19. IoT Hardware Analyst ELE/Q1405
20. Embedded Product Design Engineer-Technical Lead ELE/Q1403

### PCB Design & Manufacturing

21. Incoming QC Technician ELE/Q4401
22. In-process and Final Quality Engineer ELE/Q5501

### Consumer Electronics & IT Hardware

23. In-Store Demonstrator ELE/Q3202
24. TV Repair Technician ELE/Q3101
25. Remote Helpdesk Technician, ELE/Q4604
26. Maintenance Technician ELE/Q4501
27. Assistant Installation Computing and Peripherals ELE/Q4609
28. Electronic Machine Maintenance Executive ELE/Q2501
29. Field Technician - AC ELE/Q3102
30. Field Technician – Other Home Appliances ELE/Q3104
31. IT Coordinator in School ELE/Q4701
32. Service Technician Home Appliance ELE/Q3111
33. HVAC Technician ELE/Q3112
34. Multi Skill Technician (Electrical) ELE/Q3115
35. Field Technician – Computing and Peripherals ELE/Q4601
36. Customer Care Executive ELE/Q4603
37. Purchase-Executive ELE/Q7702
38. PCB Assembly Operator ELE/Q7804
39. Field Technician Networking and Storage ELE/Q4606
40. Sales Engineer Electronics Product ELE/Q7602
41. Service Engineer-IT Hardware ELE/Q4607
42. Field Engineer-RACW ELE/Q3105
43. Quality Engineer ELE/Q7901
44. Junior Field Technician - Home Appliances ELE/Q3117
45. Multi Skill Technician - Consumer Durables ELE/Q3118

### Security & Surveillance

46. CCTV Installation Technician ELE/Q4605

### Electronics Manufacturing System

47. Wiring Harness Assembly Operator ELE/Q6306
48. Assembly Line Operator ELE/Q4301
49. Assembly Operator-RAC ELE/Q3501
50. Assembly Operator-TV ELE/Q3502
51. Assembly Supervisor ELE/Q6305
52. Through Hole Assembly Operator ELE/Q5101
53. Incoming Materials Inspector-Electronics Items ELE/Q5502
54. EMS Technician ELE/Q5315
55. Pick And Place Assembly Operator ELE/Q5102
56. EMS Operation & Maintenance Manager ELE/Q5312

### Solar & LED

57. LED Luminary Mechanical Assembly & Testing Technician ELE/Q5803
58. Solar Panel Installation Technician ELE/Q5901
59. Solar LED Technician ELE/Q5903
60. LED Light Repair Technician ELE/Q9302

### Industrial Automation

61. Electrical Technician ELE/Q6301
62. Wireman Control Panel Electronics ELE/Q7302
63. Electrical Assembly Operator - Control Panel ELE/Q7306
64. Mechanical Fitter Electronics ELE/Q6302
65. Field Technician–UPS & Inverter ELE/Q7201
66. Electronic Hardware Design Engineer ELE/Q6102

67. Mechatronics Maintenance Specialist ELE/Q7105
68. Building Management System Service Engineer ELE/Q7104
69. Mechatronics Designer and System Integrator ELE/Q7107
70. Building Management System Project Manager ELE/Q7102
71. Mechanical Engineering and Plumbing General Manager ELE/Q7103
72. Robotics Automation Lead ELE/Q7106
73. Electrician ELE/Q5804

### E-mobility & Battery

74. Battery System Assembly Operator ELE/Q6604
75. Electronic Hardware Assembly Operator ELE/Q6605
76. Drone Service Technician ELE/Q7003
77. Drone Manufacturing and Assembly Technician ELE/Q7307
78. Battery System Repair Technician ELE/Q7001
79. Motor & Controller Repairing Technician ELE/Q7002
80. Battery System Design Engineer ELE/Q6701
81. Motor and Controller Design Engineer ELE/Q6702

### Communication & Broadcasting

82. Smartphone Assembly Technician ELE/Q3901
83. DTH Set Top Box Installation & Service Technician ELE/Q8101
84. DAS Set Top Box Installation & Service Technician ELE/Q8102
85. Mobile Phone Hardware Repair Technician ELE/Q8104
86. Digital Cable Technician-Access ELE/Q810
87. Quality Manager-Electronics ELE/Q7902
88. Project Manager-Electronics ELE/Q9801





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# Semiconductor & Components Qualifications



1

<b>Job Role:</b> Welding Operator Electronics, ELE/Q0102	<b>Occupation:</b> Production
<b>NQR Code:</b> 2022/EHW/ESSC/05107	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Welding Operator Electronics is responsible for bonding the electro-tinned copper lead wire to the centre of steel and cap, of the resistor by welding process.

**Minimum Education Qualification**

8th Class with 2 years of relevant Experience OR 10th Class with 6 months of relevant experience OR I.T.I (after 8th) OR Certificate of NSQF Level-2 in the domain of (Electronics / Electrical / Mechanical) with 1 year of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0102: Weld the copper lead wire to resistor
2. ELE/N9972: Communicate and coordinate effectively with others
3. ELE/N1003: Work effectively, sustainably and safely



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2

<b>Job Role:</b> Winding Operator, ELE/Q0101	<b>Occupation:</b> Production
<b>NQR Code:</b> 2022/EHW/ESSC/05376	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The Winding Operator winds the metal-alloy wire or metalized film on to a core by using an automated or semi-automated winding machines in the process of manufacturing of capacitors and resistors. The individual also sample checks the resistance or capacitance of the winding.

**Minimum Education Qualification**

8th Class pass + ITI (2 years after 8th ) with 2 years of relevant Experience OR 10th Class with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class with 6 months relevant experience OR Certificate of NSQF Level-3 in Welding Operator - Electronics with 2 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0101: Wind the film or wire
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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3

<b>Job Role:</b> Die Attach and Wire Bonding Engineer, ELE/Q0117	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05398	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Die Attach and Wire Bonding Engineer is responsible for bonding machine tools and program preparation for die attachments & wire bonding, data analysis and yield, cost and productivity improvement. He/she also assists in the design verifications and machine/tools buy-off activities.

**Minimum Education Qualification**

3 Years Diploma after 10th (Electrical or Electronics Engineering) with 3 Years of Relevant experience OR 3 Years Diploma after 12th (Electrical or Electronics Engineering) with 1 Years of Relevant experience OR B.E./ B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0121: Assess the Recipe/Program Readiness for Die Attach and Wire Bond
2. ELE/N0122: Analysis Data, Yield, Cost & Productivity Improvement
3. ELE/N0124: Verify the Design
4. ELE/N0123: Buy Machine Off/Tools & Consumables Qualification
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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4

<b>Job Role:</b> Laser Marking & Cutting Process Engineer, ELE/Q0118	<b>Occupation:</b> Production
<b>NQR Code:</b> 2022/EHW/ESSC/05396	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A laser marking & cutting process engineer is responsible for proper functioning, troubleshooting and maintenance of laser marking & cutting machines, set up process parameters, new recipes to be incorporated, material characterization and yield monitoring/analysis, etc. for equipment, tools and fixtures. He/she also assists the equipment engineer for any help needed with the laser marking and cutting machines operations.

**Minimum Education S**

3 Years Diploma after 10th (Electrical or Electronics Engineering) with 3 Years of Relevant experience OR 3 Years Diploma after 12th (Electrical or Electronics Engineering) with 1 Year of Relevant experience OR B.E./ B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0117: Recipe/Program Readiness - Define Process Parameters
2. ELE/N0118: Data Analysis & Yield, Cost & Productivity Improvement
3. ELE/N0119: Equipment Setup support
4. ELE/N0120: Machine Buy Off/Tools
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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5

<b>Job Role:</b> Molding Process Engineer, ELE/Q0119	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05399	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Molding Process Engineer is responsible to work on failure analysis flow & to rectify the failures. He/ she is also responsible for verification and resolve by working together with several cross functional teams. Similarly, he is responsible for reliability flow, Test requirements as per JEDEC standards

**Minimum Education Qualification**

3 Years Diploma after 10th (Electrical or Electronics Engineering) with 3 Years of Relevant experience OR 3 Years Diploma after 12th (Electrical or Electronics Engineering) with 1 Years of Relevant experience OR B.E./ B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0125: Assess the Recipe/Program Readiness (Define Process Parameters)
2. ELE/N0126: Analysis Data, Yield, Cost and Productivity Improvement
3. ELE/N0124: Verify the Design
4. ELE/N0127: Buy Machine curing ovens, off/Tools & Consumables Qualification
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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7

<b>Job Role:</b> Failure Analysis & Reliability Engineer, ELE/Q0121	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05629	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/3/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Failure Analysis and Reliability Engineer is responsible to prepare failure analysis flow & to rectify the failures. The individual is also responsible for verification and resolution by working together with several cross-functional teams for reliability flow, test requirements as per JEDEC standards.

**Minimum Education Qualification**

B.E./ B.Tech (Degree in Electronics/Material Science/Computer Science) OR 3 years Diploma after 12th (Electronics/ semiconductors/ Computer Science) with 1 year of relevant experience OR 3 years diploma after 10th (Electrical/ Electronics/Mechanical Engineering) with 3 years of relevant experience OR Certificate of NSQF Level-4 in semiconductor with domain with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0160: Operate chemical-related process
2. ELE/N0161: Operate optical microscope and X-Ray Machine
3. ELE/N0162: Operate Scanning Electron Microscope (SEM), Confocal Scanning Electron Microscopy (CSEM) & Focused Ion Beam (FIB)
4. ELE/N0163: Understanding of full failure Analysis flow
5. ELE/N0164: Report Preparation & guidance to the Process Engineer
6. ELE/N0165: Reliability Flow & Testing
7. ELE/N9905: Work effectively at the workplace
8. ELE/N1002: Apply health and safety practices at the workplace



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6

<b>Job Role:</b> Quality Analysis & Reliability Engineer, ELE/Q0120	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05397	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

An quality analysis and reliability engineer works is responsible to prepare Quality analysis flow & to rectify the failures. He/she is also responsible for verification and resolve by working together with several cross functional teams and test requirements as per Joint Electron Device Engineering Council (JEDEC) standards.

**Minimum Education Qualification**

Diploma ((after 10th (Electrical or Electronics Engineering) with 3 Years of Relevant experience) OR (3 Years Diploma after 12th (Electrical or Electronics Engineering) with 1 Years of Relevant experience)) OR B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate-NSQF (Level-4 in semiconductor domain) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0128: Check the Internal Quality
2. ELE/N0129: Check the Customer Quality
3. ELE/N0130: Analysis Data
4. ELE/N0131: Knowledge of Quality & Reliability Equipment
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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8

<b>Job Role:</b> Wafer Test and Sort Engineer, ELE/Q0122	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05628	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Wafer Test & Sort engineer is responsible for wafer inspection, testing & prober handling activity to verify all defined parameters for inspection of wafers before proceeding to another step of manufacturing. The individual needs to also assist the manager and/or other authorized personnel in machine buy-off and consumable calculations for each and every step.

**Minimum Education Qualification**

B.E./ B.Tech (Degree in Electronics/Material Science/Computer Science) OR 3 years Diploma after 12th (Electronics/Semiconductors/Computer Science) with 1 year of relevant experience OR 3 years Diploma after 10th (Electrical or Electronics or Mechanical Engineering) with 3 years of relevant experience OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0152: Inspect the Wafer
2. ELE/N0153: Test & Sort
3. ELE/N0154: Prober Handling
4. ELE/N0155: Purchasing of Machine/Tools & Consumables
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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9

<b>Job Role:</b> Package Design Engineer, ELE/Q0123	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05634	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Package Design engineer works on Designing software & responsible for designing & defining of layouts for different type of IC Packages. He is also responsible for Test Program preparation for all type of IC Packages available with product or Research & Development Team. He also assists in the design verifications.

**Minimum Education Qualification**

B.E./ B.Tech (Degree in Electronics/Material Science/Computer Science) OR 3 years Diploma after 12th (Electronics/Semiconductors/ Computer Science) with 1 year of relevant experience OR 3 years Diploma after 10th (Electrical/Electronics/ Mechanical Engineering) with 3 years of relevant experience OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0156: Package Design
2. ELE/N0157: Electrical Simulation
3. ELE/N0158: Thermal Simulation
4. ELE/N0159: Mechanical Simulation
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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10

<b>Job Role:</b> IC Package Engineer, ELE/Q0124	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05630	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

An IC Package Engineer is responsible to design complete package & check Package feasibility & Characterization and validate, He works in coordination with Production as well as Research and Development (R&D) for sample building & Approvals on both types Electronics as well as Mechanical. He is also responsible for development of New Products & Launching for the same to mass production.

**Minimum Education Qualification**

B.E./ B.Tech (Degree in Electronics/Material Science/Computer Science) OR 3 years Diploma after 12th (Electronics/Semiconductors/ Computer Science) with 1 year of relevant experience OR 3 years Diploma after 10th (Electronics/Electrical/ Mechanical Engineering) with 3 years of relevant experience OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0133: Defining the IC package characteristics and feasibility
2. ELE/N0134: Building a mechanical and customer sample
3. ELE/N0135: Building Quality & Transferring to Mass Production
4. ELE/N0136: Research and development of new products
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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11

<b>Job Role:</b> Wafer Back Grinding Engineer, ELE/Q0125	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05633	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Wafer Grinding - Process Engineer works on Wafer Grinding Process & responsible for preparing recipe (Process Parameters), Data Analysis, Yield Maintenance & Improvements, Productivity Improvements etc. He need to know complete process of Wafer Grinding during IC Packaging to handle process. Create process for new products.

**Minimum Education Qualification**

B.E./ B.Tech (Degree in Electronics/Material Science/Computer Science) OR 3 years Diploma after 12th (Electronics/Semiconductors/ Computer Science) with 1 year of relevant experience OR 3 years Diploma after 10th (Electrical/Electronics/ Mechanical Engineering) with 3 years of relevant experience OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0132: Program Readiness
2. ELE/N0137: Cost & Productivity Improvement
3. ELE/N0138: Back Grinding Design & Verification
4. ELE/N0139: Supply Chain of Machine and Tools
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Wafer Dicing Engineer, ELE/Q0126	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05635	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Wafer Dicing - Process Engineer works on Wafer Dicing Process & responsible for preparing recipe (Process Parameters), Data Analysis, Yield Maintenance & Improvements, Productivity Improvements etc. He needs to know complete process of Wafer Dicing during IC Packaging to handle process. Create process for new products.

**Minimum Education Qualification**

B.E./ B.Tech (Degree in Electronics/Material Science/Computer Science) OR 3 years Diploma after 12th (Electronics/Semiconductors/ Computer Science) with 1 year of relevant experience OR 3 years Diploma after 10th (Electrical/Electronics/ Mechanical Engineering) with 3 years of relevant experience OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0140: Define Process Parameters
2. ELE/N0141: Analysis Data & Yield
3. ELE/N0142: Wafer Dicing Design Verification
4. ELE/N0143: Machine/Tools awareness & Qualification
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Solder Ball Attach - Process Engineer, ELE/Q0127	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05632	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Solder Ball Attach Engineer works on Program Preparation for Solder Ball Attach Machine and also he is responsible for Operation of Machine to complete process and deliver to next step of Manufacturing. He also need to coordinate with other departments for smooth functioning.

**Minimum Education Qualification**

B.E./ B.Tech (Degree in Electronics/Material Science/Computer Science) OR 3 years Diploma after 12th (Electronics/Semiconductors/ Computer Science) with 1 year of relevant experience OR 3 years Diploma after 10th (Electrical/Electronics/ Mechanical Engineering) with 3 years of relevant experience OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0144: Define Recipe & Process Parameters
2. ELE/N0145: Data Analysis & Yield Improvement
3. ELE/N0146: Solder Ball Attachment Design & Verification
4. ELE/N0147: Purchasing of Tools and Consumable Materials
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Saw Singulation Engineer, ELE/Q0128	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05631	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Saw Singulation - Process Engineer works on Saw Singulation Process & responsible for preparing recipe (Process Parameters), Data Analysis, Yield Maintenance & Improvements, Productivity Improvements etc all. He need to know complete process of Saw Singulation during IC Packaging to handle process. Create process for new products.

**Minimum Education Qualification**

B.E./ B.Tech (Degree in Electronics/Material Science/Computer Science) OR 3 years Diploma after 12th (Electronics/Semiconductors/ Computer Science) with 1 year of relevant experience OR 3 years Diploma after 10th (Electrical/Electronics/ Mechanical Engineering) with 3 years of relevant experience OR Certificate of NSQF Level-4 in semiconductor domain with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N0148: Program Readiness for Saw Singulation
2. ELE/N0149: Cost Analysis & Productivity Improvement
3. ELE/N0150: Design Verification in Saw Singulation Process
4. ELE/N0151: Buying and Installation of Machines/Tools
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Sr. Executive - Business Development, ELE/Q1101	<b>Occupation:</b> Marketing & Sales-S & C
<b>NQR Code:</b> 2022/EHW/ESSC/05639	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for studying the market, understanding the customer requirement and offering products and services to satisfy the customer requirement. The individual at work coordinates and interacts with customers for sale of products and services.

**Minimum Education Qualification**

Post graduate in any stream OR Graduate in any stream with 6 months of relevant experience OR 3 years diploma after 12th with 1 year of relevant experience OR 3 years diploma after 10th with 3 years of relevant experience OR Certificate of NSQF Level-4 in Purchase Executive with 2 years of relevant experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N1101: Analyse the market
2. ELE/N1102: Offer solutions to customer
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> VLSI Design Engineer, ELE/Q1201	<b>Occupation:</b> Production-S&C
<b>NQR Code:</b> 2022/EHW/ESSC/05377	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work designs SOC-module function using software and design tools as per the given specifications. The individual is also responsible for coordinating with other design teams involved in the SOC design.

**Minimum Education Qualification**

3 Years Diploma after 10th (Electrical or Electronics Engineering) with 3 Years of Relevant experience OR 3 Years Diploma after 12th (Electrical or Electronics Engineering) with 1 Year of Relevant experience OR B.E./ B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate of NSQF Level-4 in Design Engineer with 2 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N1201: Develop function design of SOC module
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Embedded Software Engineer, ELE/Q1501	<b>Occupation:</b> System Software Development
<b>NQR Code:</b> 2022/EHW/ESSC/05108	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

An Embedded Software Engineer is responsible for assessing the embedded systems specification requirement, develops software, tests and validates the software in coordination with design engineers for system integration.

**Minimum Education Qualification**

10 class + ITI with 2 years of relevant experience OR 12th class with 4 years of relevant experience OR Diploma after 12th (Electrical or Electronics Engineering) OR Certificate of NSQF Level-4 in Field Technician - Air Conditioner with 2 years relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N1501: Develop embedded system software
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Embedded Full Stack IoT Analyst, ELE/Q1404	<b>Occupation:</b> Product Design
<b>NQR Code:</b> 2022/EHW/ESSC/05132	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual in this job role creates and implements new embedded OS based on system requirements and/or industry specifications. The individual builds and manages OS drivers for any custom hardware and to enhance existing application with new features.

**Minimum Education Qualification**

10 class + ITI with 2 years of relevant experience OR 12th class with 4 years of relevant experience OR Diploma after 12th (Electrical or Electronics Engineering) OR Certificate of NSQF Level-4 in Field Technician - Air Conditioner with 2 years relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N1406: Develop and Test Design for IoT Based System
2. ELE/N1410: Build GUI and Applications in a Framework
3. ELE/N1411: Test and Troubleshoot the Firmware
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> IoT Hardware Analyst, ELE/Q1405	<b>Occupation:</b> Product Design
<b>NQR Code:</b> 2022/EHW/ESSC/05131	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual in this job role prepares a complete blueprint of the hardware including schematics layout, quality verification requirements and perform PCB testing in compliance with regulatory standards to records them in a design document. The individual will also be responsible for working and efficient functioning of the system.

**Minimum Education Qualification**

10 class + ITI with 2 years of relevant experience OR 12th class with 4 years of relevant experience OR Diploma after 12th (Electrical or Electronics Engineering) OR Certificate of NSQF Level-4 in Field Technician - Air Conditioner with 2 years relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N1407: Create requirement specifications and detailed design documents
2. ELE/N1408: Design circuit and PCB layout for the IoT system
3. ELE/N1409: Build and test the complete IoT system
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Embedded Product Design Engineer-Technical Lead, ELE/Q1403	<b>Occupation:</b> Design
<b>NQR Code:</b> 2022/EHW/ESSC/05130	<b>NSQF Level:</b> 6
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The Embedded Product Design Engineer-Technical Lead designs, develops and debugs embedded systems and related products as per the given requirements, specifications, system architecture and feasibility analysis. The individual leads and performs the assigned responsibilities independently.

**Minimum Education Qualification**

3 years Diploma (after 12th ) in relevant trade with 04 years of relevant experience OR B.E./ B.Tech (Degree in Electrical or Electronics Engineering) with 02 Year of relevant Experience OR M.E/M.Tech in Electrical or Electronics Engineering) OR Certificate of NSQF Level-5 in Embedded Software Engineer with 2 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N1403: Design embedded electronic products
2. ELE/N1404: Develop and test software solutions for embedded products
3. ELE/N1405: Test and rectify malfunctions in the prototype of the embedded product
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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# PCB Design & Manufacturing Qualifications



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<b>Job Role:</b> Incoming QC Technician, ELE/Q4401	<b>Occupation:</b> Manufacturing
<b>NQR Code:</b> 2022/EHW/ESSC/05385	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for checking quality check on the components and modules procured from suppliers for production of hardware equipment. The individual performs physical and functional quality check processes on the components and modules and ensure QC passed components is used for hardware assembling.

**Minimum Education Qualification**

Diploma (3 Years) after 10th (Electrical or Electronics Engineering) with 3 Years of relevant experience OR

After 12th (Electrical or Electronics Engineering) with 1 Year of relevant experience) OR B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate-NSQF (Level-4 in Quality Assurance) with 2 Years of experience relevant.

**Applicable National Occupational Standards (NOS)**

1. ELE/N4401 – Performing incoming Quality check
2. ELE/N9905 – Work effectively at the workplace
3. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> In-process and Final Quality Engineer, ELE/Q5501	<b>Occupation:</b> Quality Checking
<b>NQR Code:</b> 2022/EHW/ESSC/05379	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work sample checks final PCB assembly for functional conformance as well as visually before they are packed and dispatched. The individual is responsible for ensuring total quality or IPC or ISO standards compliance during the assembly of PCBs.

**Minimum Education Qualification**

Diploma (3 Years) after 10th (Electrical or Electronics Engineering) with 3 Years of relevant experience OR after 12th (Electrical or Electronics Engineering) with 1 Year of relevant experience) OR B.E./B. Tech (Degree in Electrical or Electronics Engineering) OR Certificate-NSQF (Level-4 in Quality Assurance) with 2 Years of experience relevant.

**Applicable National Occupational Standards (NOS)**

1. ELE/N5501 – Check Quality of assembled PCB
2. ELE/N9905 – Work effectively at the workplace
3. ELE/N1002 – Apply health and safety practices at the workplace



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# Consumer Electronics & IT Hardware Qualifications



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<b>Job Role:</b> In-Store Demonstrator, ELE/Q3202	<b>Occupation:</b> Marketing and Sales
<b>NQR Code:</b> 2022/EHW/ESSC/05381	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual in this job is responsible for effective engagement with the customers, understanding their buying requirements, explaining the promotions, schemes and offers of the store, assisting them in choosing the right model of appliance/device and completing the sales transaction.

**Minimum Education Qualification**

8th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-2 in the domain of (Electronics / Electrical / Mechanical) ) with 2 Years of experience relevant OR 10th Class with 6 Months of experience relevant OR I.T.I (after 8th).

**Applicable National Occupational Standards (NOS)**

1. ELE/N3203: Effectively interact with customers
2. ELE/N3204: Demonstrate product specifications and offerings
3. ELE/N9972: Communicate and coordinate effectively with others
4. ELE/N1003: Work effectively, sustainably and safely



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<b>Job Role:</b> Remote Helpdesk Technician, ELE/Q4604	<b>Occupation:</b> After Sales Support
<b>NQR Code:</b> 2022/EHW/ESSC/05134	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual in this job role receives, understands and resolves customer's technical queries through telephone and interacts with customer to identify the problem, understand the cause, to trouble shoot and resolve the queries.

**Minimum Education Qualification**

8th Class ((with 2 years of relevant Experience) OR (10th Class with 06 months of relevant Experience)) OR I.T.I (after 8th) OR Certificate-NSQF ((Level-2 in the domain of (Electronics / Electrical / Mechanical)) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N4606: Engage with customer on telephone
2. ELE/N4608: Diagnose, troubleshoot, and resolve the customer query on call
3. ELE/N9972: Communicate and coordinate effectively with others
4. ELE/N1003: Work effectively, sustainably, and safely



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<b>Job Role:</b> TV Repair Technician, ELE/Q3101	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05109	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

TV Repair Technician - is responsible for interacting with the customer to install the TV as well as diagnose the problem. The individual also needs to assess possible causes of fault reported and rectify problems/faults.

**Minimum Education Qualification**

8th Class with 2 years of relevant Experience OR 10th Class with 06 months of relevant Experience OR I.T.I (after 8th) OR Certificate of NSQF Level-2 in the domain of (Electronics / Electrical / Mechanical) with 2 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N3101: Engage with customer for service
2. ELE/N3102: Install and repair dysfunctional TVs
3. ELE/N9972: Communicate and coordinate effectively with others
4. ELE/N1003: Work effectively, sustainably and safely



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<b>Job Role:</b> Maintenance Technician, ELE/Q4501	<b>Occupation:</b> Maintenance
<b>NQR Code:</b> 2022/EHW/ESSC/05371	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work undertakes periodical preventive maintenance of machines as per the set schedule for the electrical and mechanical systems installed in the factory. The individual is also responsible for attending to any breakdown and repairs to restore temporary or permanent functioning or call expert for significant down time problems.

**Minimum Education Qualification**

8th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-2 in the domain of (Electronics / Electrical / Mechanical Maintenance)) with 2 Years of experience relevant OR 10th Class with 6 Months of experience relevant OR I.T.I (after 8th).

**Applicable National Occupational Standards (NOS)**

1. ELE/N4501: Perform periodical preventive maintenance
2. ELE/N4502: Perform breakdown maintenance
3. ELE/N9972: Communicate and coordinate effectively with others
4. ELE/N1003: Work effectively, sustainably and safely



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<b>Job Role:</b> Assistant Installation Computing and Peripherals, ELE/Q4609	<b>Occupation:</b> After Sales Support
<b>NQR Code:</b> 2022/EHW/ESSC/05638	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for installing newly purchased products, troubleshooting system problems and, configuring peripherals such as printers, scanners, and network devices.

**Minimum Education Qualification**

8th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-2 in the domain of (Repair and Maintenance of computing & peripherals) with 2 Years of experience relevant OR 10th Class with 6 Months of experience relevant OR I.T.I (after 8th).

**Applicable National Occupational Standards (NOS)**

1. ELE/N4601: Engage with customers for IT hardware service
2. ELE/N4602: Install, configure and setup hardware system
3. ELE/N9972: Communicate and coordinate effectively with others
4. ELE/N1003: Work effectively, sustainably and safely



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<b>Job Role:</b> Electronic Machine Maintenance Executive, ELE/Q2501	<b>Occupation:</b> Maintenance
<b>NQR Code:</b> 2022/EHW/ESSC/05386	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is carries out scheduled maintenance of machines used on shop floor using manufacturers manual and as per training given by manufacturer in order to have zero unscheduled downtime.

**Minimum Education Qualification**

8th Class + ITI (2 years after 8th ) with 2 years of relevant experience) OR 10th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-3 in Maintenance Technician) with 2 Years of experience relevant OR 12th Class with 6 Months of experience relevant.

**Applicable National Occupational Standards (NOS)**

1. ELE/N2501: Maintain machines and equipment
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Field Technician - AC, ELE/Q3102	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05110	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Field Technician - Air Conditioner individual provides after-sales service to customers where he/she needs to interact with customers to diagnose the problem and assess possible causes. The individual identifies and rectifies minor problems or replaces faulty modules for failed parts or recommends factory repair for bigger faults.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (With 2 years of relevant Experience Or I.T.I (after 10th) Or 12th Class OR Certificate (NSQF Level-3 in Safety Testing Technician RACWO with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N3101: Engage with customer for service
2. ELE/N3108: Perform installation and repair of air conditioner
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Field Technician – Other Home Appliances, ELE/Q3104	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05111	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for interacting with the customers for installation of the appliance and diagnosis of the problem to assess possible causes of malfunction. The individual is also responsible for rectification of the problems, replacement of faulty modules Failed parts or recommend for factory repairs.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (With 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class OR Certificate (NSQF Level-3 in Safety Testing Technician RACWO with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N3101: Engage with customer for service
2. ELE/N3118: Install the water purifier
3. ELE/N3119: Repair dysfunctional water purifier
4. ELE/N3120: Repair dysfunctional mixer/juicer/grinder
5. ELE/N3121: Repair dysfunctional microwave oven
6. ELE/N9905: Work effectively at the workplace
7. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> IT Coordinator in School, ELE/Q4701	<b>Occupation:</b> E-Learning Management
<b>NQR Code:</b> 2022/EHW/ESSC/05117	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for operating and maintaining e-learning hardware as well as updating and operating e-learning application. The individual also assists teachers and students in operating the e-learning applications.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th ) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate (NSQF Level-3 in Remote Helpdesk Technician with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N4701: Manage computing and display systems
2. ELE/N4702: Manage e-learning curriculum
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> HVAC Technician, ELE/Q3112	<b>Occupation:</b> After Sales Support
<b>NQR Code:</b> 2022/EHW/ESSC/05133	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual in this job role maintains and repairs heating, air conditioning and ventilation systems in commercial and industrial areas. The individual engages with the client to understand the work requirement and follows organizational norms to complete the work.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th ) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate (NSQF Level-3 in Safety Testing Technician RACWO with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N3101: Engage with customer for service
2. ELE/N3140: Service, troubleshoot and repair a HVAC system (chillers)
3. ELE/N3141: Service, troubleshoot and repair packaged type HVAC ducted system
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Service Technician Home Appliance, ELE/Q3111	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05127	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Service Technician - Home Appliances is responsible to interact with customers to Install the appliance or diagnose the problem to assess possible causes of malfunction. Once the problem and causes have been identified, the individual rectifies the problems or replaces faulty modules/failed parts or recommends factory repairs.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th ) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate (NSQF Level-3 in Safety Testing Technician RACWO with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N3101: Engage with customer for service
2. ELE/N3112: Install and repair appliances
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Multi Skill Technician (Electrical), ELE/Q3115	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2021/EHW/ESSC/04793	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

The individual in this job is responsible for diagnosing and repairing faults in multiple small domestic home appliances. The individual needs to also install the appliance, if needed, and interact with customers to diagnose the problem and possible causes and replace faulty modules.

**Minimum Education Qualification**

10th Class with 3 Years of experience (relevant) OR Certificate-NSQF ((of Level-3 in the domain of Electronics/ Electrical /Mechanical) OR Diploma (in Electrical or Electronics Engineering)) OR 12th Class/I.T.I ((After 10th)) with 1 Year of experience (relevant).

**Applicable National Occupational Standards (NOS)**

1. ELE/N3147: Engage with the Customers for Service
2. ELE/N3148: Diagnose and repair faults in LED light
3. ELE/N3149: Diagnose and fix faults in geyser and fans
4. ELE/N3150: Install new and repair dysfunctional water purifiers
5. ELE/N3151: Repairing dysfunctional mixer/juicer/grinder
6. ELE/N3152: Developing entrepreneurial skills
7. ELE/N9905: Work effectively at the workplace
8. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Field Technician – Computing and Peripherals, ELE/Q4601	<b>Occupation:</b> After Sales Support
<b>NQR Code:</b> 2021/EHW/ESSC/04794	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

A Field Technician -- Computing & Peripherals is responsible for visiting customer premises to install and carry out repair and maintenance of a desktop computer. The individual carries out installation and troubleshooting of computer peripherals also. The individual may also carry out installation, repair and maintenance of a laptop and relevant peripherals.

**Minimum Education Qualification**

10th Class with 3 Years of experience (relevant) OR Certificate-NSQF ((of Level-3 in the domain of Electronics / Electrical / Mechanical) OR Diploma (in Electrical or Electronics Engineering) ) OR 12th Class/I.T.I ((After 10th)) with 1 Year of experience (relevant).

**Applicable National Occupational Standards (NOS)**

1. ELE/N4601: Evaluate the customer requirements and computer issues
2. ELE/N3155: Install the desktop computer and its peripherals
3. ELE/N4603: Carry out repair and maintenance of a desktop computer and its peripherals
4. ELE/N3153: Install laptop and its peripherals
5. ELE/N3154: Carry out repair and maintenance of laptop and its peripherals
6. ELE/N9905: Work effectively at the workplace
7. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Customer Care Executive, ELE/Q4603	<b>Occupation:</b> After Sales Support
<b>NQR Code:</b> 2022/EHW/ESSC/05637	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 31/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual in this job is responsible for receiving, understanding and responding to customer queries through telephone or e-mail. The individual records the complaints for follow up, coordinates with other departments to resolve technical problems and closes non-technical issues raised by customers on the call itself.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th)) with 2 Years of experience relevant OR 10th Class with 2 Years of experience relevant OR 12th Class OR Certificate-NSQF (Level-3 in domain of customer care segment) with 2 Years of experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N4606: Interact with customers on telephone to resolve non-technical and technical issues
2. ELE/N4607: Profile the customer and register complaint
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Purchase-Executive, ELE/Q7702	<b>Occupation:</b> Product Sales
<b>NQR Code:</b> 2022/EHW/ESSC/05373	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Also known as Procurement Executive, the individual purchases quality materials in a timely manner at competitive prices to maintain the optimum inventory level. The individual also collects information about the materials required by different departments and selects the appropriate supplier.

**Minimum Education Qualification**

8th Class (+ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-3 in Purchase domain) with 2 Years of experience relevant OR 12th Class.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7703: Collect information about materials and suppliers
2. ELE/N7705: Issue purchase order and receive supplies
3. ELE/N7704: Maintain inventory of materials
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> PCB Assembly Operator, ELE/Q7804	<b>Occupation:</b> Manufacturing
<b>NQR Code:</b> 2022/EHW/ESSC/05124	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

PCB assembly operator is responsible for manually placing different types of components on the PCB as per the design requirements and then soldering them.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate (NSQF Level-3 in Wiring Harness Assembly Operator with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N7812: Assemble Printed Circuit Board (PCB)
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Field Technician Networking and Storage, ELE/Q4606	<b>Occupation:</b> After Sales Support
<b>NQR Code:</b> 2022/EHW/ESSC/05115	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual also known as service technician provides after sale support services to customers, typically, at their premises and is responsible for attending to customer complaints, installing newly purchased products, troubleshooting system problems and, configuring hardware equipment such as servers, storage and other related networking devices.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate (NSQF Level-3 in Safety Testing Technician RACWO with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N4601: Engaging with the customers
2. ELE/N4612: Installing, configuring and setting up the networking and storage system
3. ELE/N4613: Troubleshooting and fix equipment
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Sales Engineer Electronics Product, ELE/Q7602	<b>Occupation:</b> Product Sales
<b>NQR Code:</b> 2022/EHW/ESSC/05375	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for studying the market, understanding the customer requirement and offering products and services to satisfy the customer requirement by interacting directly with customers for sale of products and services. The individual also coordinates with the installation and commissioning team as well as the channel sales partners.

**Minimum Education Qualification**

Diploma (3 Years) after 10th (Electrical or Electronics Engineering) with 3 Years of Relevant experience Or after 12th (Electrical or Electronics Engineering) with 1 Year of Relevant experience) OR B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate-NSQF (Level-4 in Sales Executive-IT Hardware) with 2 Years of experience relevant.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7604: Plan and prepare for sales
2. ELE/N7605: Sell electronics products to potential customers
3. ELE/N7606: Coordinate for installation and commissioning of electronics product
4. ELE/N7607: Sell electronics products to wholesalers and retailers
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Service Engineer- IT Hardware, ELE/Q4607	<b>Occupation:</b> After Sales Support
<b>NQR Code:</b> 2022/EHW/ESSC/05116	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual is responsible for attending to problems in IT hardware and related software systems problem either as a dedicated engineer at the customer premises (Facility Management) or remotely (Managed Services).

**Minimum Education Qualification**

Diploma (Electrical or Electronics Engineering) with 2 Years of Relevant experience) OR B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate (NSQF Level-4 in Field Technician Computing and Peripherals with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N4614: Manage customer IT hardware at facility
2. ELE/N4615: Manage customer system remotely
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Field Engineer–RACW, ELE/Q3105	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05112	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual interacts with customers to install the appliance, diagnose the problem to assess possible causes of malfunction, rectifies minor problems, and replaces faulty modules for failed parts or recommends factory repairs for bigger faults.

**Minimum Education Qualification**

Diploma ((Electrical or Electronics Engineering) with 2 Years of Relevant experience) OR B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate (NSQF Level-4 in Field Technician - Air Conditioner with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N3101: Engage with customer for service
2. ELE/N3112: Perform installation and repair of refrigerator
3. ELE/N3114: Perform installation and repair of air conditioners
4. ELE/N3116: Perform installation and repair of washing machine
5. ELE/N9905: Work effectively at the workplace
6. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Quality Engineer, ELE/Q7901	<b>Occupation:</b> Quality Maintenance
<b>NQR Code:</b> 2022/EHW/ESSC/05384	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for ensuring compliance to quality regulations during product design, identifying and implementing system evaluation and product assessment procedures in order to ensure conformance to standards and specifications.

**Minimum Education Qualification**

Diploma (3 Years) after 10th (Electrical or Electronics Engineering) with 3 Years of relevant experience Or after 12th (Electrical or Electronics Engineering) with 1 Year of Relevant experience) OR B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate-NSQF (Level-4 in Quality Assurance) with 2 Years of experience relevant.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7901: Provide quality support for product development
2. ELE/N7902: Perform quality tests and root-cause analysis
3. ELE/N7903: Perform incoming and outgoing material testing
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Junior Field Technician - Home Appliances, ELE/Q3117	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/06453	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 17/11/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for interacting with the customers for installation of the appliance and diagnosis of the problem to assess possible causes of malfunction. The individual is also responsible for rectification of the problems, replacement of faulty modules/Failed parts or recommend for factory repairs.

**Minimum Education Qualification**

8th grade pass with 2 years of relevant experience OR 9th grade pass and pursuing regular schooling OR 10th grade pass OR 9th grade pass + 2 years NTC/NAC in relevant trade (after 8th)

**Applicable National Occupational Standards (NOS)**

1. ELE/N3101 : Engage with customer for service
2. ELE/N3157: Installation & Repair of dysfunctional Iron
3. ELE/N3160: Repair dysfunctional Fan
4. ELE/N3159: Repair dysfunctional LED and Other Lights
5. ELE/N3158: Repair dysfunctional Cooler
6. ELE/N1003: Work effectively , sustainably and safely
7. DGT/VSQ/N0102: Employability Skills



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<b>Job Role:</b> Multi Skill Technician - Consumer Durables, ELE/Q3118	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/06454	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 17/11/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The incumbent at work is responsible for installation, diagnose, troubleshoot and repair all consumer durables like refrigerator, TV, washing machine, water purifier, microwave etc. and communicate the Service Manager/Lead Mechanic regarding repair priorities and status.

**Minimum Education Qualification**

8th grade pass + NTC (2 years after 8th) with 2 years of NAC/relevant experience OR 10th grade pass with 2 years NTC/NAC/relevant experience OR 12th grade pass OR Certificate (NSQF Level-3 in the Electrical Technician) with 2 years of relevant experience

**Applicable National Occupational Standards (NOS)****Elective 1:**

1. ELE/N3169: Installation and Repair of Refrigerator (DIOS)
2. ELE/N3170: Installation and Repair of Washing Machine
3. ELE/N3163: Installation and Repair of Dish Washer
4. ELE/N3162: Installation and Repair of Air Conditioner
5. ELE/N3161: Gas Charging in the Refrigerator and AC

**Elective 2:**

6. ELE/N3168: Installation and Repair of Television
7. ELE/N3167: Installation and Repair of Microwave
8. ELE/N3166: Installation and Repair of Water Purifier
9. ELE/N3165: Installation and Repair of basic refrigerator and washing machine
10. ELE/N3164: Installation and Repair of OLED/ Monitor

**Compulsory NOS:**

11. DGT/VSQ/N0102: Employability Skills



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# Security & Surveillance Qualifications





<b>Job Role:</b> CCTV Installation Technician, ELE/Q4605	<b>Occupation:</b> After Sales Support
<b>NQR Code:</b> 2022/EHW/ESSC/05114	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for installing the CCTV system in the customer premises. The individual understands the customer and site requirement, installs the camera and integrates the hardware for effective CCTV surveillance system functioning.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate (NSQF Level-3 in the domain of (Electronics / Electrical / Mechanical) with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N4609: Visit Site and Understand Customer Requirement
2. ELE/N4610: Install the CCTV Camera
3. ELE/N4611: Setup the CCTV Surveillance System
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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## Qualifications



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<b>Job Role:</b> Wiring Harness Assembly Operator, ELE/Q6306	<b>Occupation:</b> Production-EMS
<b>NQR Code:</b> 2021/EHW/ESSC/04792	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

The individual makes a wire harness assembly by cutting, stripping and crimping wires and then soldering, connecting, taping and labeling them on a laying board as per the design specifications. This is followed by testing the components of the assembly.

**Minimum Education Qualification**

10th Class with 3 Years of experience (relevant) OR 12th Class/I.T.I ((After 10th)) with 1 Year of experience (relevant) OR Certificate-NSQF ((of Level-2 in the domain of Electronics / Electrical / Mechanical) OR Diploma (in Electrical or Electronics Engineering)).

**Applicable National Occupational Standards (NOS)**

1. ELE/N6306: Perform pre-assembly operations
2. ELE/N6307: Assemble the components of wire harness
3. ELE/N9972: Communicate and coordinate effectively with others
4. ELE/N1003: Work effectively, sustainably and safely



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<b>Job Role:</b> Assembly Line Operator, ELE/Q4301	<b>Occupation:</b> Assembly-EMS
<b>NQR Code:</b> 2022/EHW/ESSC/05387	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for assembling the different modules in the IT hardware to complete the product. The individual receives different electronic and electromechanical modules, fits and assembles them together. The operator may assemble multiple modules and/or products by following operating procedures for different models.

**Minimum Education Qualification**

8th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-2 in the domain of (Electronics / Electrical / Mechanical) with 2 Years of experience relevant OR 10th Class with 6 Months of experience relevant OR I.T.I (after 8th).

**Applicable National Occupational Standards (NOS)**

1. ELE/N4301: Perform kitting of modules for assembling
2. ELE/N4302: Assemble modules to complete equipment
3. ELE/N9972: Communicate and coordinate effectively with others
4. ELE/N1003: Work effectively, sustainably and safely



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<b>Job Role:</b> Assembly Operator-RAC, ELE/Q3501	<b>Occupation:</b> Assembly-EMS
<b>NQR Code:</b> 2022/EHW/ESSC/05382	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for assembling and wiring up of various components, modules or subassemblies and systems to make the complete product.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-3 in Wiring Harness assembly operator) with 2 Years of experience relevant OR 12th Class with 6 Months of experience relevant.

**Applicable National Occupational Standards (NOS)**

1. ELE/N3506: Assemble refrigerator
2. ELE/N3507: Assemble air conditioner
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Assembly Operator-TV, ELE/Q3502	<b>Occupation:</b> Assembly-EMS
<b>NQR Code:</b> 2022/EHW/ESSC/05383	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for fitting in the different modules of the television set into the frame using appropriate screws and connectors during the different stages of the assembly process. The individual is expected to minimize errors at every stage since the assembly line is continuously in motion.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant experience) OR 10th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-3 in Wiring Harness assembly operator) with 2 Years of experience relevant OR 12th Class with 6 Months of experience relevant.

**Applicable National Occupational Standards (NOS)**

1. ELE/N3508: Assemble CRT TV
2. ELE/N3509: Assemble Flat Panel Display TV
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Assembly Supervisor, ELE/Q6305	<b>Occupation:</b> Medical Device Manufacturing
<b>NQR Code:</b> 2022/EHW/ESSC/05122	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work coordinates with related departments like production planning, stores, quality assurance and assembly to implement production schedule, manage shifts and allocate work in order to meet deadlines and quality standards.

**Minimum Education Qualification**

Diploma (after 10th (Electrical or Electronics or Mechanical Engineering)) with 3 Years of experience in the relevant field OR Diploma (after 12th (Electrical or Electronics or Mechanical Engineering) with 1 Year of Relevant experience OR B.E./ B.Tech (Degree in Electrical or Electronics or Mechanical Engineering)) OR Certificate-NSQF (Level-4 in Site Engineer Control Panel) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N6305: Supervise assembly activities
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Through Hole Assembly Operator, ELE/Q5101	<b>Occupation:</b> Assembly And Soldering
<b>NQR Code:</b> 2022/EHW/ESSC/05128	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Through-hole Assembly Operator is responsible for manually fixing components using hand tools, operating and maintaining the automated insertion machine used for placing different types of components on the through-hole PCBs.

**Minimum Education Qualification**

8th Class ((+ ITI (2 years after 8th) with 2 years of relevant Experience) OR (10th Class with 2 years of relevant Experience)) OR I.T.I ((after 10th)) OR 12th Class)) OR Certificate-NSQF (Level-3 in Wiring Harness Assembly Operator) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N5101: Perform Through-Hole Assembly on PCB components
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Incoming Materials Inspector-Electronics Items, ELE/Q5502	<b>Occupation:</b> Incoming Inspection-EMS
<b>NQR Code:</b> 2022/EHW/ESSC/05374	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The Incoming Materials Inspector receives components and modules at the factory premises and verifies that the quantity and specifications of the parts received are as per the respective purchase order. The individual is responsible for inspecting the incoming materials and coordinating with various departments within an organization.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th ) with 2 years of relevant Experience ) OR 10th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-3 in quality assurance) with 2 Years of experience relevant OR 12th Class.

**Applicable National Occupational Standards (NOS)**

1. ELE/N5502: Inspect the incoming electronics materials and products
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> EMS Technician, ELE/Q5315	<b>Occupation:</b> Assembly And Soldering
<b>NQR Code:</b> 2022/EHW/ESSC/05136	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Electronics Manufacturing Services Technician in this job job works on SMT machines, circuit boards and soldering equipment. The individual is responsible for the maintenance and troubleshooting of SMT equipment and also assists in the assembly and programming of SMT equipment.

**Minimum Education Qualification**

8th Class ((+ ITI (2 years after 8th with 2 years of relevant Experience) OR (10th Class with 2 years of relevant Experience)) OR I.T.I ((after 10th) OR (12th Class)) OR Certificate-NSQF (Level-3 in Wiring Harness Assembly Operator) with 2 Years of experience In the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N5304: Operate reflow-oven soldering machine
2. ELE/N5201: Apply solder paste
3. ELE/N5102: Operate pick-and-place machine
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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**Job Role:** Pick And Place Assembly Operator, ELE/Q5102**Occupation:** Assembly And Soldering**NQR Code:** 2022/EHW/ESSC/05139**NSQF Level:** 4**Reviewed on:** 27/01/2022**Validity:** 3 years**Brief Job Description**

A Pick-and-Place Assembly Operator at work programs, operates and maintains the automated pick-and place machine for placing different types of components on the surface of PCBs for soldering.

**Minimum Education Qualification**

8th Class ((+ITI (2 years after 8th with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience)) OR I.T.I ((after 10th) OR (12th Class)) OR Certificate-NSQF (Level-3 in Wiring Harness Assembly Operator) with 2 Years of experience In the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N5102: Operate pick-and-place machine
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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**Job Role:** EMS Operation & Maintenance Manager, ELE/Q5312**Occupation:** Manufacturing**NQR Code:** 2022/EHW/ESSC/05135**NSQF Level:** 6**Reviewed on:** 27/01/2022**Validity:** 3 years**Brief Job Description**

Electronics Manufacturing Services Operation & Maintenance Manager in this job plans production targets of SMT machines and ensures that all the resources to perform the tasks are in a good working condition. The individual should have understanding of Electronic Manufacturing Service (contract manufacturing) and should be able to maintain the SMT production processes and relevant equipment.

**Minimum Education Qualification**

Diploma ((after 12th) in relevant trade) with 4 Years of experience in the relevant field OR B.E./B.Tech ((Degree in Electrical or Electronics Engineering) with 02 Year of relevant Experience OR M.E/M.Tech in Electrical or Electronics Engineering)) OR Certificate-NSQF (Level-4 in EMS Technician) with 4 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N5313: Manage SMT machines
2. ELE/N5314: Manage production process, material quality and machines
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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# Solar & LED Qualifications



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<b>Job Role:</b> LED Luminary Mechanical Assembly & Testing Technician, ELE/Q5803	<b>Occupation:</b> Assembly-S&L
<b>NQR Code:</b> 2022/EHW/ESSC/05372	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for fitting together different electronic, electrical and mechanical parts and connect them to make the final LED luminary as per product design as well as testing LED luminaries using different testing equipment.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-3 in LED domain) with 2 Years of experience relevant OR 12th Class.

**Applicable National Occupational Standards (NOS)**

1. ELE/N5803: Assemble various parts of LED luminary according to standard practices
2. ELE/N5804: Test the LED luminary using various equipment
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Solar Panel Installation Technician, ELE/Q5901	<b>Occupation:</b> Installation
<b>NQR Code:</b> 2022/EHW/ESSC/05118	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

Solar Panel Installation Technician in this job checks the installation site, understands the layout requirement as per design, assesses precautionary measures to be taken, installs the solar panel as per customers requirement and ensures effective functioning of the system post installation.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class ) OR Certificate (NSQF Level-3 in Electrical Technician with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N5901: Check site conditions, collect tools and raw materials
2. ELE/N5902: Install the solar panel
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Solar LED Technician, ELE/Q5903	<b>Occupation:</b> Installation-S&L
<b>NQR Code:</b> 2022/EHW/ESSC/05378	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual is capable of installing various types of solar home based LED lighting, outdoor and street lighting as per given instructions. The person should be able to identify faults in a solar PV system and carry out repair at preliminary level in line with given performance parameters. The individual must adhere to all the relevant environmental, safety and regulatory requirements while carrying out his/her job duties.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant experience) OR 10th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-3 in Electrical Technician) with 2 Years of experience relevant OR 12th Class with 6 Months of experience relevant.

**Applicable National Occupational Standards (NOS)**

1. ELE/N5905: Perform installation of Solar PV System
2. ELE/N5906: Perform maintenance and repair of Solar PV System
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> LED Light Repair Technician, ELE/Q9302	<b>Occupation:</b> LED Light Testing and Quality Assurance
<b>NQR Code:</b> 2022/EHW/ESSC/05126	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A LED Light Repair Technician is responsible for checking the non - functional LED light in a systematic manner to find out the fault, dismantles it, repairs the fault and reassemble the light to make it functional.

**Minimum Education Qualification**

8th Class (pass + ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class ) OR Certificate (NSQF Level-3 in Electrical Technician with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N9302: Diagnose and repair fault in LED Light
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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# Industrial Automation Qualifications



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<b>Job Role:</b> Electrical Technician, ELE/Q6301	<b>Occupation:</b> Assembly & Integration
<b>NQR Code:</b> 2022/EHW/ESSC/05120	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work integrates modules and sub parts together that form the electronic system of the product.

**Minimum Education Qualification**

8th Class with 2 Years of experience Relevant Experience OR 10th Class (with 06 months of relevant Experience OR I.T.I (after 8th) OR Certificate (NSQF Level-2 in the domain of (Electronics / Electrical / Mechanical) with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N6301 – Integrate electrical sub system
2. ELE/N9972 – Communicate and Coordinate effectively with others
3. ELE/N1003 – Work effectively, sustainably and safely



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<b>Job Role:</b> Wireman Control Panel Electronics, ELE/Q7302	<b>Occupation:</b> Manufacturing
<b>NQR Code:</b> 2022/EHW/ESSC/05129	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for wiring all components present within the panel as per specifications provided by the design engineering team.

**Minimum Education Qualification**

8th Class (with 2 years of relevant Experience) OR 10th Class (with 06 months of relevant Experience OR I.T.I (after 8th) OR Certificate (NSQF Level-2 in the domain of (Electronics / Electrical / Mechanical) with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N7302 – Wire control panel
2. ELE/N9972 – Communicate and Coordinate effectively with others
3. ELE/N1003 – Work effectively, sustainably and safely



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<b>Job Role:</b> Electrical Assembly Operator - Control Panel, ELE/Q7306	<b>Occupation:</b> Assembly-I&A
<b>NQR Code:</b> 2022/EHW/ESSC/05380	<b>NSQF Level:</b> 3
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work mounts and installs and connects internal electronic modules devices and components on the control panel.

**Minimum Education Qualification**

8th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-2 in the domain of (Electronics / Electrical / Mechanical) with 2 Years of experience relevant OR 10th Class with 6 Months of experience relevant OR I.T.I (after 8th).

**Applicable National Occupational Standards (NOS)**

1. ELE/N7307 – Assemble Control Panel
2. ELE/N9972 – Communicate and Coordinate effectively with others
3. ELE/N1003 – Work effectively, sustainably and safely



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<b>Job Role:</b> Mechanical Fitter Electronics, ELE/Q6302	<b>Occupation:</b> Assembly & Integration
<b>NQR Code:</b> 2022/EHW/ESSC/05121	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for fitting the control devices of the panel at defined slots, once the outer casing of the panel has been assembled.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate (NSQF Level-3 in wireman control panel with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N6302 – Integrate Mechanical Sub system
2. ELE/N9905 – Work effectively at the workplace
3. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Field Technician–UPS & Inverter, ELE/Q7201	<b>Occupation:</b> Sales and After Sales Services
<b>NQR Code:</b> 2022/EHW/ESSC/05123	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work installs the newly purchased UPS or inverter and interacts with customers to diagnose the problems, assess possible causes, rectify faults or replace faulty modules or recommends factory repairs for bigger faults.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant Experience) OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate (NSQF Level-3 in Electrical Technician with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N0061 – Understand requirement of customer
2. ELE/N7201 – Install the UPS/ Inverter
3. ELE/N7202 – Repair dysfunctional UPS/ Inverter
4. ELE/N9905 – Work effectively at the workplace
5. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Electronic Hardware Design Engineer, ELE/Q6102	<b>Occupation:</b> Designing
<b>NQR Code:</b> 2022/EHW/ESSC/05119	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for undertaking research on new products, work with R&D on developing the schematics, converting them to PCB layout using CAD and other software and generating the Gerber file to pass on to PCB manufacturers.

**Minimum Education Qualification**

Diploma (Electrical or Electronics Engineering) with 2 Years of Relevant experience) OR B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Certificate (NSQF Level-4 in Design Engineer with 2 years of relevant Experience).

**Applicable National Occupational Standards (NOS)**

1. ELE/N6102 – Develop design for manufacture
2. ELE/N9905 – Work effectively at the workplace
3. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Mechatronics Maintenance Specialist, ELE/Q7105	<b>Occupation:</b> Engineering-I&A
<b>NQR Code:</b> 2022/EHW/ESSC/05391	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Mechatronics Maintenance Specialist is responsible for installing, testing, and using sensors, actuators, and microcontrollers in the mechatronics system. The individual is also responsible for carrying out the repair and maintenance of the mechatronics system.

**Minimum Education Qualification**

Diploma ((after 10th (Electrical or Electronics or Mechanical Engineering) with 3 Years of Relevant experience) OR Diploma after 12th (Electrical or Electronics or Mechanical Engineering) with 1 Year of Relevant experience) OR B.E./B.Tech (Degree in Electrical or Electronics or Mechanical Engineering) OR Certificate-NSQF (Level-4 in Site Engineer Control Panel) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7109 – Set up circuits and electrical components in the mechatronics system
2. ELE/N7110 – Install, test and use the sensors and actuators in the mechatronics system
3. ELE/N7111 – Install, test and use microcontroller in the mechatronics system
4. ELE/N9905 – Work effectively at the workplace
5. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Building Management System Service Engineer, ELE/Q7104	<b>Occupation:</b> Engineering-I&A
<b>NQR Code:</b> 2022/EHW/ESSC/05388	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Building Management System (BMS) Service Engineer is responsible for installing the Building Management System (BMS) at the client premises. The person is also responsible for monitoring the BMS for the correct functioning and carrying out its regular repair and maintenance.

**Minimum Education Qualification**

Diploma ((after 10th (Electrical or Electronics or Mechanical Engineering) with 3 Years of Relevant experience) OR (Diploma after 12th (Electrical or Electronics or Mechanical Engineering) with 1 Year of Relevant experience) OR B.E./B.Tech (Degree in Electrical or Electronics or Mechanical Engineering) OR Certificate-NSQF (Level-4 in Site Engineer Control Panel) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7205 – Prepare for installing the BMS
2. ELE/N7206 – Carry out the installation of BMS
3. ELE/N7208 – Carry out commissioning and testing of BMS
4. ELE/N7207 – Carry out repair and maintenance of BMS
5. ELE/N9905 – Work effectively at the workplace
6. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Mechatronics Designer and System Integrator, ELE/Q7107	<b>Occupation:</b> Engineering-I&A
<b>NQR Code:</b> 2022/EHW/ESSC/05392	<b>NSQF Level:</b> 6
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Mechatronic Designer and System Integrator is responsible for the designing of controlled motion systems through the integration of functional elements from a multitude of disciplines. The individual works in all aspects of the development of smart machine manufacturing from design to testing in industries such as robotics, human-machine interaction, medical and assistive technology, etc.

**Minimum Education Qualification**

Diploma ((after 10th (Electrical or Electronics or Mechanical Engineering) with 5 Years of Relevant experience) OR (3 Years Diploma after 12 (Electrical or Electronics or Mechanical Engineering) with 3 Years of Relevant experience)) OR B.E./B.Tech ((Degree in Electrical or Electronics or Mechanical Engineering) with 02 Year of relevant Experience) OR (M.E./M.Tech in Electrical or Electronics or Mechanical Engineering)) OR Certificate-NSQF (Level-5 in Building Management System Service Engineer) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7112 – Integrate PLC with the SCADA system
2. ELE/N7113 – Analyse motion control
3. ELE/N7114 – Design the panels using AutoCAD electrical toolset
4. ELE/N7115 – Carry out process instrumentation
5. ELE/N7116 – Set up advanced automation in mechatronics
6. ELE/N9905 – Work effectively at the workplace
7. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Mechanical Engineering and Plumbing General Manager, ELE/Q7103	<b>Occupation:</b> Engineering-I&A
<b>NQR Code:</b> 2022/EHW/ESSC/05390	<b>NSQF Level:</b> 7
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

An Mechanical Engineering and Plumbing (MEP) General Manager is responsible for planning, managing, monitoring and execution of Mechanical Engineering and Plumbing (MEP) projects at the client premises. The individual is also responsible for preparing the tender proposal and making presentations to secure MEP contracts, identifying the training needs of company personnel and arranging training, recruitments, risk assessment, Profit & Loss (P&L) management, etc.

**Minimum Education Qualification**

Diploma (after 12th in relevant trade) with 6 Years of experience in the relevant field OR B.E./B.Tech ((Degree in Electrical or Electronics or Mechanical Engineering) with 04 Year of relevant Experience OR M.E./M.Tech in Electrical or Electronics or Mechanical Engineering with 02 years of relevant Experience) OR Certificate-NSQF (Level-6 in Building Management System Project Manager) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7106 – Manage the tendering, sub- contracting and planning processes for MEP Projects
2. ELE/N7107 – Manage the MEP Project execution, commissioning, testing and handover processes
3. ELE/N7108 – Carry out internal organizational – level responsibilities
4. ELE/N9905 – Work effectively at the workplace
5. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Building Management System Project Manager, ELE/Q7102	<b>Occupation:</b> Engineering-I&A
<b>NQR Code:</b> 022/EHW/ESSC/05389	<b>NSQF Level:</b> 6
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Building Management System (BMS) Project Manager is responsible for the successful delivery of Building Management System (BMS) installation projects. The responsibilities include coordinating with the client to understand their requirements and then working with various teams within the organisation for the successful installation, testing, commissioning and handover of BMS to the client.

**Minimum Education Qualification**

Diploma ((after 10 (Electrical or Electronics or Mechanical Engineering) with 5 Years of Relevant experience) OR (Diploma after 12 (Electrical or Electronics or Mechanical Engineering) with 3 Years of Relevant experience ) OR B.E./B.Tech (Degree in Electrical or Electronics or Mechanical Engineering) with 02 Year of relevant Experience) OR (M.E./M.Tech in Electrical or Electronics or Mechanical Engineering) OR Certificate-NSQF (Level-5 in Building Management System Service Engineer) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N6103 – Manage the BMS tendering, designing and procurement processes.
2. ELE/N6104 – Manage the BMS installation, testing, commissioning and handover processes
3. ELE/N9905 – Work effectively at the workplace
4. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Robotics Automation Lead, ELE/Q7106	<b>Occupation:</b> Engineering-I&A
<b>NQR Code:</b> 2022/EHW/ESSC/05393	<b>NSQF Level:</b> 7
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Robotics Automation Lead designs and monitors all the computer-controlled systems and robotic devices used within industrial and commercial facilities to reduce human intervention and maximize efficiency. The individual assists manufacturing, mechanical, and electronics engineers in all phases of process design, development, production, testing, installation of the robot and operations.

**Minimum Education Qualification**

Diploma (after 12th in relevant trade) with 6 Years of experience in the relevant field OR B.E./B.Tech ((Degree in Electrical or Electronics or Mechanical Engineering) with 04 Year of relevant Experience) OR (M.E./M.Tech in Electrical or Electronics or Mechanical Engineering with 02 years of relevant Experience)) OR Certificate-NSQF (Level-6 in Building Management System Project Manager) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7117 – Use the appropriate Robotic Process Automation (RPA) software
2. ELE/N7118 – Integrate robot manipulators with process components
3. ELE/N7119 – Perform source control integration in the RPA software
4. ELE/N7120 – Use REFramework in the RPA software
5. ELE/N7121 – Use the robot sensing and machine vision technologies
6. ELE/N9905 – Work effectively at the workplace
7. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Electrician, ELE/Q5804	<b>Occupation:</b> Assembly & System Integration
<b>NQR Code:</b> 2022/EHW/ESSC/06452	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 17/11/2022	<b>Validity:</b> 3 years

### Brief Job Description

The individual at work Planning, Design & Installation modules and sub parts together that form the electrical & electronic system of the product.

### Minimum Education Qualification

8th grade pass + NTC (2 years after 8th) with 2 years of NAC/relevant experience OR 10th grade pass with 2 years NTC/NAC/relevant experience OR 12th grade pass OR Certificate (NSQF Level-3 in the Electrical Technician) with 2 years of relevant experience.

### Applicable National Occupational Standards (NOS)

1. ELE/N5806: Planning, Design and Installation of electrical and electronics sub system
2. ELE/N5805: Testing, Commissioning, Maintenance, Fault Finding and Repair
3. DGT/VSQ/N0102: Employability Skills
4. ELE/N1002: Apply health and safety practices at the workplace



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# E-mobility & Battery Qualifications





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<b>Job Role:</b> Battery System Assembly Operator, ELE/Q6604	<b>Occupation:</b> Assembly-EM&B
<b>NQR Code:</b> 2021/EHW/ESSC/04785	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

The Battery system assembly operator is responsible for assembling the battery pack for an Electric Vehicle. Along with that, s/he tests the engine management system, climate controls, and communications and safety systems and takes corrective actions against any malfunction detected.

**Minimum Education Qualification**

The Battery system assembly operator is responsible for assembling the battery pack for an Electric Vehicle. Along with that, s/he tests the engine management system, climate controls, and communications and safety systems and takes corrective actions against any malfunction detected. I.T.I (After 10th) with 1 Year of experience in the relevant field OR Diploma (Electrical or Electronics Engineering) OR Certificate-NSQF (Level-3 in the domain of EV / Electrical / Mechanical / Automobile (Electric Vehicle Assembly Operator)).

**Applicable National Occupational Standards (NOS)**

1. ELE/N6604: Assemble the Battery system
2. ELE/N6605: Test the Battery system assembly
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Electronic Hardware Assembly Operator, ELE/Q6605	<b>Occupation:</b> After Sale Support-EM&B
<b>NQR Code:</b> 2021/EHW/ESSC/04786	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

An Electronic Hardware Assembly Operator is responsible for installing electronic components inside various devices of an Electric Vehicle. Along with that, s/he reviews blueprints and specification sheets, inspects components, performs quality assurance tests, identifies defects in the assembly process and takes corrective actions against any malfunction detected.

**Minimum Education Qualification**

I.T.I (After 10th) with 1 Year of experience in the relevant field OR Diploma (Electrical or Electronics Engineering) OR Certificate-NSQF (Level-3 in the domain of EV / Electrical / Mechanical / Automobile (Electric Vehicle Assembly Operator)).

**Applicable National Occupational Standards (NOS)**

1. ELE/N6607: Assemble Electronic Hardware in an EV
2. ELE/N6606: Test the Electronic Hardware assembly in an EV
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Drone Service Technician, ELE/Q7003	<b>Occupation:</b> After Sale Support-EM&B
<b>NQR Code:</b> 2021/EHW/ESSC/04791	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

A Drone Service Technician conducts routine maintenance, troubleshoots and repairs malfunctioning or defective Drone while ensuring adherence to standard working practices. The individuals in this job maintain and repair drones of varying sizes that are used in various applications such as taking aerial photos or videos, transporting goods, firefighting and emergency operations, power line inspections, clandestine inspections, etc.

**Minimum Education Qualification**

10th Class with 3 Years of experience in the relevant field OR Certificate-NSQF (Level-3 in the domain of Electronics / Electrical / Mechanical) OR Diploma (in Electrical or Electronics Engineering) OR 12th Class/I.T.I (After 10th) with 1 Year of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7005: Repair and maintain a Drone
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Drone Manufacturing and Assembly Technician, ELE/Q7307	<b>Occupation:</b>
<b>NQR Code:</b> 2022/EHW/ESSC/05877	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 26/05/2022	<b>Validity:</b> 3 years

**Brief Job Description**

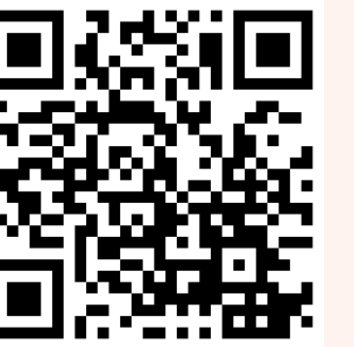
A Drone Manufacturing and Assembly Technician simulates, assembles, tests and debugs drones as part of a Drone manufacturing line, whilst ensuring adherence to standard working practices. The individuals in this job assemble and manufacture drones of varying sizes that are used in various applications such as taking aerial photos or videos, transporting goods, firefighting and emergency operations, power line inspections, clandestine inspections, etc.

**Minimum Education Qualification**

10th class + 2 years of experience OR 12th class + 6 months experience OR 2 years ITI (after 10th) OR 3 years Eng. Diploma after 10th (Electrical/ Electronics/Instrumentation Engineering) OR Course of NSQF Level-3 in the domain of Electrical/ Electronics/ Instrumentation/ Mechanical with 2 years of experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N7308: Manufacturing and Assembly of a drone
2. ELE/N9905: Work effectively at the workplace
3. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Battery System Repair Technician, ELE/Q7001	<b>Occupation:</b> After Sale Support-EM&B
<b>NQR Code:</b> 2021/EHW/ESSC/04789	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

The Battery system repair technician is responsible for servicing and repairing of the battery system in an Electric Vehicle. Along with that, s/he tests the battery system after servicing and takes corrective actions against any malfunction detected.

**Minimum Education Qualification**

I.T.I (After 10th) with 1 Year of experience in the relevant field OR Diploma (Electrical or Electronics Engineering) OR Certificate-NSQF (Level-3 in the domain of EV / Electrical / Mechanical / Automobile (Automotive Service Technician)).

**Applicable National Occupational Standards (NOS)**

1. ELE/N7006: Identify service related issues of the customer
2. ELE/N7002: Repair faulty parts in the Battery System
3. ELE/N7001: Test the Battery System after service and repair
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Battery System Design Engineer, ELE/Q6701	<b>Occupation:</b> Product Design & Development-EM&B
<b>NQR Code:</b> 2021/EHW/ESSC/04787	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

The Battery System Design Engineer is responsible for design and the implementation of the control system that ensure battery longevity, efficiency and safety of the battery in an Electric Vehicle. The job covers activities like designing the battery system, thorough testing and validation of the design.

**Minimum Education Qualification**

B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Diploma (Electrical or Electronics Engineering) with 3 Years of experience in the relevant field OR Certificate-NSQF (Level-4 in the domain of EV / Electrical / Mechanical / Automobile (Battery System Assembly Operator)).

**Applicable National Occupational Standards (NOS)**

1. ELE/N6701: Design the Battery system
2. ELE/N6702: Inspect, test and implement the Battery system
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Motor & Controller Repairing Technician, ELE/Q7002	<b>Occupation:</b> After Sale Support-EM&B
<b>NQR Code:</b> 2021/EHW/ESSC/04790	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

The EV motor and controller service technician is responsible for servicing and repairing of the motor and controller in an Electric Vehicle, Along with that, s/he tests the motor and the controller after servicing and takes corrective action against any malfunction detected.

**Minimum Education Qualification**

I.T.I (After 10th) with 1 Year of experience in the relevant field OR Diploma (Electrical or Electronics Engineering) OR Certificate-NSQF (Level-3 in the domain of EV / Electrical / Mechanical / Automobile (Automotive Service Technician)).

**Applicable National Occupational Standards (NOS)**

1. ELE/N7006: Identify service related issues of the customer
2. ELE/N7004: Repair faulty parts in the Motor and Controller System
3. ELE/N7003: Test the Motor and Controller after service and repair
4. ELE/N9905: Work effectively at the workplace
5. ELE/N1002: Apply health and safety practices at the workplace



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<b>Job Role:</b> Motor and Controller Design Engineer, ELE/Q6702	<b>Occupation:</b> Product Design & Development-EM&B
<b>NQR Code:</b> 2021/EHW/ESSC/04788	<b>NSQF Level:</b> 5
<b>Reviewed on:</b> 30/12/2021	<b>Validity:</b> 3 years

**Brief Job Description**

The Motor and Controller Design Engineer is responsible for designing motor, controller and power transmission control system for electric vehicles. The job covers activities like designing the control system, thorough testing and validation of the design.

**Minimum Education Qualification**

B.E./B.Tech (Degree in Electrical or Electronics Engineering) OR Diploma (Electrical or Electronics Engineering) with 3 Years of experience in the relevant field OR Certificate-NSQF (Level-4 in the domain of EV / Electrical / Mechanical / Automobile (Motor & Controller Repairing Technician)).

**Applicable National Occupational Standards (NOS)**

1. ELE/N6703: Design the Motor and Transmission Control system
2. ELE/N6704: Inspect, test and implement the Motor and Transmission Control system
3. ELE/N9905: Work effectively at the workplace
4. ELE/N1002: Apply health and safety practices at the workplace



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Skilling India in Electronics

# Communication & Broadcasting Qualifications



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<b>Job Role:</b> Smartphone Assembly Technician, ELE/Q3901	<b>Occupation:</b> Assembly-EMS
<b>NQR Code:</b> 2022/EHW/ESSC/05113	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Smartphone assembly technician is responsible for interpreting assembly instructions, blueprint specifications, etc. to assemble or fix smartphone parts/components in correct position and alignment using approved techniques and equipment in a production unit.

**Minimum Education Qualification**

8th Class ((+ ITI (2 years after 8th) with 2 years of relevant Experience) OR (10th Class with 2 years of relevant Experience)) OR I.T.I ((after 10th) OR 12th Class) OR Certificate-NSQF (Level-3 in the domain of (Electronics / Electrical / Mechanical)) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N3901 – Assemble Smartphone
2. ELE/N9905 – Work effectively at the workplace
3. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> DTH Set Top Box Installation & Service Technician, ELE/Q8101	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05125	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work installs the set-top box at customers premises, addresses the field serviceable complaints and coordinates with the technical team for activation of new connections.

**Minimum Education Qualification**

8th Class (pass + ITI (2 years after 8th)) with 2 Years of experience in the relevant field OR 10th Class (with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class) OR Certificate-NSQF (Level-3 in the domain of (Electronics / Electrical / Mechanical)) with 2 Years of experience in the relevant field.

**Applicable National Occupational Standards (NOS)**

1. ELE/N8105 – Installing and repairing DTH set top box
2. ELE/N8102 – Engaging with customer for service
3. ELE/N9905 – Work effectively at the workplace
4. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> DAS Set Top Box Installation & Service Technician, ELE/Q8102	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05137	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual in this job role installs the set-top box at customer's premises, addresses the field serviceable complaints and coordinates with the technical team for activation of new connections.

**Minimum Education Qualification**

8th Class pass + ITI (2 years after 8th ) with 2 years of relevant Experience OR 10th Class with 2 years of relevant Experience OR I.T.I (after 10th) OR 12th Class Certificate of NSQF Level-3 in the domain of (Electronics / Electrical / Mechanical) with 2 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

1. ELE/N8101 – Install and repair DAS set - top box
2. ELE/N8102 – Comprehend customer requirement
3. ELE/N9905 – Work effectively at the workplace
4. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Mobile Phone Hardware Repair Technician, ELE/Q8104	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05636	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/03/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The individual at work is responsible for rectifying faults in the mobile phone brought in by the customer. The individual receives the faulty mobile phone, diagnoses the problems, performs front end or hardware level repair as required, resolves software issues and ensures effective functioning before delivering back to customer.

**Minimum Education Qualification**

8th Class (+ ITI (2 years after 8th) with 2 years of relevant experience) OR 10th Class with 2 Years of experience relevant OR Certificate-NSQF (Level-3 in repairing of mobile phone domain) with 2 Years of experience relevant OR 12th Class.

**Applicable National Occupational Standards (NOS)**

1. ELE/N8104 – Interact with customer and perform front end repair
2. ELE/N8107 – Repair and rectify the faults in mobile phone
3. ELE/N9905 – Work effectively at the workplace
4. ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Digital Cable Technician–Access, ELE/Q810	<b>Occupation:</b> After Sales Service
<b>NQR Code:</b> 2022/EHW/ESSC/05138	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 27/01/2022	<b>Validity:</b> 3 years

**Brief Job Description**

The person is responsible for installation, maintenance and repair of cable television and set-top box at premises. The technicians work on the trunk line and sub-trunk line, and inspect cable lines, lay cables under or on top of the building and repair cable faults.

**Minimum Education Qualification**

8th Class with 2 Years of experience relevant OR I.T.I (2 years after 8th) with 2 Years of experience relevant OR 10th Class with 2 Years of experience relevant OR 12th Class OR I.T.I (after 10th) OR Certificate-NSQF with 2 Years of experience relevant Level-3 in the domain of (Electronics / Electrical / Mechanical).

**Applicable National Occupational Standards (NOS)**

- 1.ELE/N8116 – Lay truck or sub truck cables install and connectorized as per designed route
- 2.ELE/N8117 – Carry out installation of power inserter & balancing and commissioning of amplifier
- 3.ELE/N8118 – Install Set Top Box at customers premise
- 4.ELE/N8119 – Cater to customer complaints for troubleshooting and maintenance of set top box
- 5.ELE/N8120 – Lay, install and carry out commissioning for multi play network
- 6.ELE/N9905 – Work effectively at the workplace
- 7.ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Quality Manager – Electronics, ELE/Q7902	<b>Occupation:</b> Quality Maintenance
<b>NQR Code:</b> 2022/EHW/ESSC/05394	<b>NSQF Level:</b> 4
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Quality Manager - Electronics is responsible for managing quality in all organizational operations. It starts from ensuring the quality of components received from the supplier to the quality of final output, including the quality of the production process. The individual also recruits, trains and manages a team of quality inspectors and supervisors, apart from driving quality initiatives in the organization to ensure it remains competitive in the market.

**Minimum Education Qualification**

3 Years Diploma after 10 (Electrical or Electronics Engineering) with 5 Years of Relevant experience OR 3 Years Diploma after 12 (Electrical or Electronics Engineering) with 3 Years of Relevant experience OR B.E./ B.Tech (Degree in Electrical or Electronics Engineering) with 02 Year of relevant Experience OR M.E/M.Tech in Electrical or Electronics Engineering)OR Certificate of NSQF Level-5 in Quality Engineer with 02 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

- 1.ELE/N7906 – Manage quality in the Product design process
- 2.ELE/N7907 – Manage the supplier relationship and receipt inspection process
- 3.ELE/N7908 – Manage quality in the production process and final output
- 4.ELE/N7909 – Manage recruitment, training and drive quality initiatives for projects
- 5.ELE/N9905 – Work effectively at the workplace
- 6.ELE/N1002 – Apply health and safety practices at the workplace



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<b>Job Role:</b> Project Manager–Electronics, ELE/Q9801	<b>Occupation:</b> Generic – Planning & Management
<b>NQR Code:</b> 2022/EHW/ESSC/05395	<b>NSQF Level:</b> 7
<b>Reviewed on:</b> 24/02/2022	<b>Validity:</b> 3 years

**Brief Job Description**

A Project Manager - Electronics is responsible for planning, overseeing and leading projects from ideation to completion. This includes liaison with the project stakeholders and third-party vendors to ensure timely and successful delivery of projects. The individual may be responsible for managing multiple projects according to the size of the organization.

**Minimum Education Qualification**

3 years Diploma after 12th in relevant trade with 06 years of relevant experience OR B.E./ B.Tech (Degree in Electrical or Electronics Engineering) with 04 Year of relevant Experience OR M.E/M.Tech in Electrical or Electronics Engineering) 02 years of relevant ExperienceOR Course of NSQF Level-6 in Quality Manager with 02 years of relevant Experience.

**Applicable National Occupational Standards (NOS)**

- 1.ELE/N9801 – Carry out project initiation and planning
- 2.ELE/N9802 – Carry out execution, monitoring, control and closure of the project
- 3.ELE/N9905 – Work effectively at the workplace
- 4.ELE/N1002 – Apply health and safety practices at the workplace



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