





### QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR ELECTRONICS INDUSTRY

# What are Occupational Standards(OS)?

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

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### Introduction

# Qualifications Pack- DTH Set-top Box Installer and Service Technician

**SECTOR: ELECTRONICS** 

**SUB-SECTOR: COMMUNICATION & BROADCASTING** 

**OCCUPATION: AFTER SALES SERVICE** 

**REFERENCE ID:** ELE/Q8101

**ALIGNED TO:** NCO-2015/7422.1202

**DTH Set-top Box Installer and Service Technician:** DTH Set-top box technician installs set-top boxes and provides after sales service for Direct to Home (DTH) system.

**Brief Job Description:** The individual at work 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.

**Personal Attributes:** The individual must be willing to work in the field and travel through the day from one customer's premise to another. Punctuality, amenable behaviour, patience, good interpersonal relationship building, trustworthiness, integrity, and critical thinking are important attributes for this job.







# Qualifications Pack For DTH Set-top-box Installer and Service Technician

| Qualifications Pack Code | ELE/Q8101  |                  |          |
|--------------------------|--|------------------|----------|
| Job Role                 | DTH Set-top-box Installer and Service Technician |                  |          |
| Credits(NSQF)            | TBD Version number 1.0                           |                  |          |
| Sector                   | Electronics                                      | Drafted on       | 19/07/13 |
| Sub-sector               | Communication & Broadcasting                     | Last reviewed on | 31/03/15 |
| Occupation               | After Sales Service                              | Next review date | 30/06/16 |
| NSQC Clearance on        | 18/05/15   |                  |          |

| Job Role   | DTH Set-top-box Installer and Service Technician  |  |  |
|--|---|--|--|
| Role Description                                 | Installing set-top box and DTH dish at client's site, addressing complaints, providing field service, coordinating with technical team for activating new connections |  |  |
| NSQF level                                       | 4   |  |  |
| Minimum Educational Qualifications               | 8 <sup>th</sup> passed  |  |  |
| Maximum Educational Qualifications               | ITI/Diploma (Electronics, Electrical)   |  |  |
| Training Not Applicable                          |   |  |  |
| Minimum Job Entry Age 18 years                   |   |  |  |
| Experience                                       | 2 years as helper for 8 <sup>th</sup> /9 <sup>th</sup> standard passed  |  |  |
| Applicable National Occupational Standards (NOS) | 1. ELE/N8105 Install and repair DTH set-top box 2. ELE/N8102 Comprehend customer's requirement 3. ELE/N9951 Interact with other employees  Optional:                  |  |  |
|  | Not applicable  |  |  |
| Performance Criteria                             | As described in the relevant OS units   |  |  |





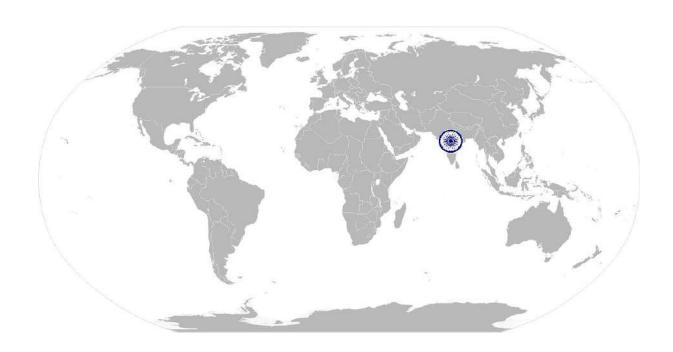




**ELE/N8105** 

Install and repair DTH set top box

# National Occupational Standard



# **Overview**

This unit is about installing DTH dish and set top box at customer's place and to addressing service related complaints.









| Skilling India in Electronics   | National Occupational Standards   |
|---|---|
| ELE/N8105   | Install and repair DTH set top box  |
| Unit Code   | ELE/N8105   |
| Unit Title<br>(Task)  | Install and repair DTH set top box  |
| Description   | This OS unit is about installing set top box and DTH dish at client's site, addressing service complaints and completing documentation  |
| Scope  Performance Criteria(  | <ul> <li>This unit/ task covers the following:</li> <li>Collect the customer's site details and carry necessary equipment and products</li> <li>Install the dish antenna and set top box (DTH) at customer's site</li> <li>Provide L1 level field service and resolve faults in case of complaint</li> <li>Collect documents and feedback forms filled by customer as per company's policy</li> <li>Achieve productivity and quality targets as prescribed by company</li> </ul> PC) w.r.t. the Scope |
| Element   | Performance Criteria  |
| Collecting customer details and carrying necessary equipment and products | To be competent, the user/ individual must be able to: PC1. understand the work order and site details of the customer from the superior and customer PC2. coordinate with stores department to collect the set box and other components or tools required for installation or servicing such as drilling machine, satellite meter, multi-meter, preparation tools  |
| Installing DTH Set Top Box  | To be competent, the user/ individual must be able to:  PC3. identify the location for installing the Dish Antenna (LNB) as per the specific requirements in case of DTH  PC4. drill and fix dish antenna (LNB)  PC5. align it correctly using the satellite meter.   |

### PC5. align it correctly using the satellite meter PC6. install set top box and check signal strength PC7. connect set top box with TV PC8. connect home theatre System with TV/ STB via HDMI, Audio/ Video/ Svideo/ SPDIF, etc. PC9. demonstrate to customer and educate about features Servicing and To be competent, the user/individual must be able to: resolving faults PC10. identify the fault responsible for unsatisfactory/interrupted service by checking wire, signal strength, connectors, set top box PC11. check the AC Mains output with the help of multi-meter and check the external power supply (Adaptor DC Output) PC12. rectify the problem and resume uninterrupted service to the satisfaction of client PC13. fill in the technical report of the fault found in the defective set top box and send to the L2 service centre where it will repaired To be competent, the user/individual must be able to: Completing PC14. maintain opening and closing documents for collection of material and testing documentation devices from the stores









# ELE/N8105 Install and repair DTH set top box

| ELE/N8105             | Install and repair DTH set top box  |  |  |  |
|-----------------------|---|--|--|--|
|                       | PC15. collect necessary forms such as Customer Registration and Program               |  |  |  |
|                       | Authentication Form and submit to relevant departments in the company                 |  |  |  |
|                       | PC16. collect customer identity (ID) proof and Customer feedback form                 |  |  |  |
| Achieving             | To be competent, the user/ individual must be able to:                                |  |  |  |
| productivity, quality | 7. achieve 100% installation and servicing as allotted                                |  |  |  |
| and safety standards  | PC18. rectify customer complaint at first visit itself                                |  |  |  |
| •                     | PC19. ensure zero bounce/ repetitive complaints                                       |  |  |  |
|                       | PC20. ensure 100% complaints resolution   |  |  |  |
|                       | PC21. minimize material consumed for resolving the complaint/fault                    |  |  |  |
|                       | PC22. carry out the work as per standards specified for the quality                   |  |  |  |
|                       | PC23. follow the safety standards as per company's policy                             |  |  |  |
|                       | PC24. ensure 100% functioning of the set top box such as Transponder, Signal          |  |  |  |
|                       |   |  |  |  |
|                       | Strength, Audio and Video quality, and Remote control                                 |  |  |  |
| Knowledge and Unders  | standing (K)  |  |  |  |
| A. Organizational     | The individual on the job needs to know and understand:                               |  |  |  |
| Context               | KA1. company's quality policies/ vision on: Customer Handling, TAT (Turnaround        |  |  |  |
| (Knowledge of the     | Time), Commitment   |  |  |  |
| ,                     | KA2. organization structure and process of other departments of importance            |  |  |  |
| company /             | KA3. importance of the individual's role in the organization                          |  |  |  |
| organization and      | KA4. reporting structure  |  |  |  |
| its processes)        | KA5. profiling of customers   |  |  |  |
|                       | KA6. installation and activation policy   |  |  |  |
|                       | KA7. service model of the company   |  |  |  |
|                       |   |  |  |  |
| B. Technical          | The individual on the job needs to know and understand:                               |  |  |  |
| Knowledge             | KB1. basics of Geo stationery satellite and Other Communication Satellite             |  |  |  |
|                       | KB2. azimuth, elevation and polarisation  |  |  |  |
|                       | KB3. spectrum utilization   |  |  |  |
|                       | B4. optimum signal strength/ signal quality for good reception                        |  |  |  |
|                       | KB5. basics of input/output functions and block diagram of the set top box            |  |  |  |
|                       | KB6. functions of the set top box and remote control                                  |  |  |  |
|                       | KB7. structure of cable, parameters and the implications on signal                    |  |  |  |
|                       | KB8. basic functioning of tuners  |  |  |  |
|                       | KB9. function of Low Noise Block Down Convertor (LNBC)                                |  |  |  |
|                       | KB10. basics of digital signals and difference in analogue and digital                |  |  |  |
|                       | KB11. transmission of television signals and functioning of television sets           |  |  |  |
|                       | KB12. specifications of different kind of inputs available on TV sets such as RF, AV, |  |  |  |
|                       | RGB, VGA, USB and HDMI  |  |  |  |
|                       | KB13. digital signal processing chain including CAS and SMS                           |  |  |  |
|                       | KB14. frequently occurring faults, causes and solutions                               |  |  |  |
|                       | KB15. safety standards and practices to be followed while using power connection,     |  |  |  |
|                       | stair to climb, first aid   |  |  |  |
|                       | KB16. Quality of Service (QoS) and End of Line (EOL) parameters and optimum           |  |  |  |
|                       | range as specified by IS13420   |  |  |  |
|                       | KB17. parameters for digital signals, viz., MER, BER, C/N, CTV and CSO and proper     |  |  |  |
|                       | recording of these for future reference   |  |  |  |
|                       | recording of these for future reference   |  |  |  |









| ELE/N8105              | Install and repair DTH set top box  |
|------------------------|---|
|                        | KB18. output ports of all types of set top boxes and input/ output ports of         |
|                        | compatible products such as LCD/ LED TV, Projectors, PCs                            |
|                        | KB19. connectivity of STB via additional device/ PC                                 |
|                        | KB20. safety precautions to be followed while using set top box by customer         |
|                        | KB21. implementation process for Engineering Change Order (ECO)                     |
|                        | KB22. switch mode power supply (SMPS)   |
| Skills (S)             |   |
| A. Core Skills/        | Basic reading and writing skills  |
| Generic Skills         | The individual on the job needs to know and understand:                             |
|                        | SA1. how to read warnings, instructions and other text material on product labels,  |
|                        | and components, standard symbols  |
|                        | SA2. how to read job sheet and complaints   |
|                        | SA3. how to read product operating manuals  |
|                        | SA4. how to operate computers and software installed                                |
|                        | SA5. how to read and understand electrical and electronic symbols, multiples and SI |
|                        | units   |
|                        | Documentation skills  |
|                        | The individual on the job needs to know and understand:                             |
|                        | SA6. how to document completion note for customer                                   |
|                        | SA7. how to record completion information in the ERP system                         |
|                        | ·   |
| B. Professional Skills | Communication skills  |
|                        | The individual on the job needs to know and understand:                             |
|                        | SB1. how to interact with customer to understand the problem faced                  |
|                        | SB2. how to market and sell accessories and products of the company                 |
|                        | SB3. importance of communicating in language  |
|                        | SB4. precautions and etiquette while dealing with customer                          |
|                        | SB5. be polite, patient and punctual  |
|                        | SB6. how not to bad mouth the company you belong to                                 |
|                        | Using tools and machines  |
|                        | The individual on the job needs to know and understand:                             |
|                        | SB7. to use hand tools such as lead tester, spanner, cutter, etc.                   |
|                        | SB8. to operate machines/meters such as drilling machine, angle meter, satellite    |
|                        | meter, etc.   |
|                        | SB9. to carry all tools and machines rather than asking customer for any            |
|                        |   |
|                        | Critical thinking   |
|                        | The individual on the job needs to know and understand:                             |
|                        | SB10. to match symptoms of the fault noticed to the cause of the problem            |
|                        | SB11. anticipate and avoid hazards that may occur during repairs because of tools,  |
|                        | materials used or repair processes  |
|                        |   |









ELE/N8105

# Install and repair DTH set top box

# **NOS Version Control**

| NOS Code            | ELE/N8105                    |                  |          |
|---------------------|------------------------------|------------------|----------|
| Credits(NSQF)       | TBD                          | Version number   | 1.0      |
| Industry            | Electronics                  | Drafted on       | 19/07/13 |
| Industry Sub-sector | Communication & Broadcasting | Last reviewed on | 31/03/15 |
| Occupation          | After Sales Service          | Next review date | 30/06/16 |

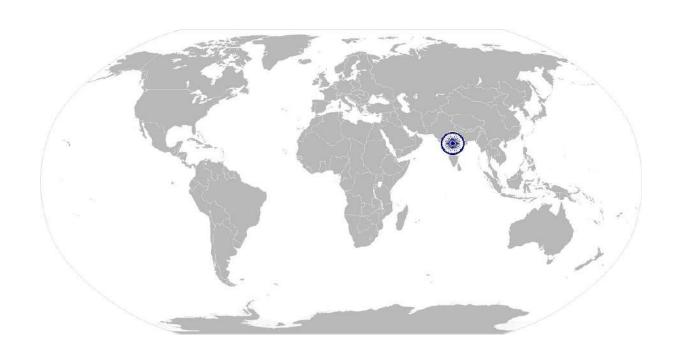






ELE/N8102 Comprehend customer's requirement

# National Occupational Standard



# **Overview**

This unit is about interacting with customers to understand their service requirements.









# ELE/N8102 Comprehend customer's requirement

| Unit Code            | ELE/N8102  |
|----------------------|--|
| Unit Title<br>(Task) | Comprehend customer's requirement  |
| Description          | This OS unit is about interacting with customer to understand their requirement with respect to problem in the appliance |
| Scope                | This unit/ task covers the following:  Interact with the customer prior to visit   |
|                      | Interact with customer at their premises   |
|                      | Suggest possible solutions to customer   |
|                      | Achieve productivity and quality as per company's norms  |

# Performance Criteria(PC) w.r.t. the Scope

| Element              | Performance Criteria  |  |  |  |
|----------------------|---|--|--|--|
|                      |   |  |  |  |
| Interacting with     | To be competent, the user/individual must be able to:                         |  |  |  |
| customer prior to    | PC1. check customer complaint registered at customer care or installation     |  |  |  |
| visit                | schedule  |  |  |  |
|                      | PC2. call customer to confirm problem and fix time for visit                  |  |  |  |
|                      | PC3. greet the customer and confirm the problem registered                    |  |  |  |
|                      | PC4. be polite and patient when interacting with customer                     |  |  |  |
|                      | PC5. check about warranty status of appliance and annual maintenance contract |  |  |  |
|                      | PC6. anticipate possible problems to carry tools and parts accordingly        |  |  |  |
|                      | PC7. ascertain customer location in order to make the route plan for the day  |  |  |  |
|                      | ,   |  |  |  |
| Interacting with     | To be competent, the user/ individual must be able to:                        |  |  |  |
| customer at their    | PC8. enquire about the symptoms and history of problems in the appliance      |  |  |  |
| premises             | PC9. ask about the age of appliance and status of upkeep                      |  |  |  |
|                      | PC10. identify the problem based on customer's information                    |  |  |  |
|                      | PC11. communicate the problems identified and educate on possible reasons     |  |  |  |
|                      | PC12. inform about costs involved   |  |  |  |
|                      | T CIET IIII USCUL GGGGG IIIVOIVEU   |  |  |  |
| Suggesting solutions | To be competent, the user/ individual must be able to:                        |  |  |  |
| to customer          | PC13. discuss the problem(s) identified with customer                         |  |  |  |
|                      | PC14. suggest possible solutions and costs involved                           |  |  |  |
|                      | PC15. explain the time required and methodology for servicing necessary       |  |  |  |
|                      | PC16. seek customer's approval on further action                              |  |  |  |
|                      |   |  |  |  |
| Achieving            | To be competent, the user/ individual must be able to:                        |  |  |  |
| productivity and     | PC17. accurately assess the problem and solution(s) necessary                 |  |  |  |
| quality              | PC18. offer most appropriate and cost-effective service as per customer's     |  |  |  |
|                      | requirement   |  |  |  |









| ELE/N8102   | Comprehend customer requirement  |  |  |
|---|--|--|--|
|   | PC19. communicate problem effectively in order to secure customer's confidence     |  |  |
|   | PC20. ensure customer satisfaction and positive feedback                           |  |  |
|   | PC21. record minimum customer complaints post service                              |  |  |
|   | PC22. avoid repeat problem post service  |  |  |
| PC23. prepare most optimum route plan to complete daily target visits |  |  |  |
| Knowledge and Unders  | tanding (K)  |  |  |
| B. Organizational   | The individual on the job needs to know and understand:                            |  |  |
| Context   | KA1. company's policies on: customer care  |  |  |
| (Knowledge of the   | KA2. company's code of conduct   |  |  |
| company /   | KA3. organisation culture and typical customer profile                             |  |  |
| •   | KA4. company's reporting structure   |  |  |
| organization and  | KA5. company's documentation policy  |  |  |
| its processes)  |  |  |  |
| B. Technical  | The individual on the job needs to know and understand:                            |  |  |
| Knowledge   | KB1. company's products and recurring problems reported in consumer                |  |  |
| · ·   | appliances   |  |  |
|   | KB2. how to communicate with customers in order to put them at ease                |  |  |
|   | KB3. basic electrical and mechanical modules of various products                   |  |  |
|   | KB4. electronics involved in the type of product                                   |  |  |
|   | KB5. models of different appliances and their common and distinguishing features   |  |  |
|   | KB6. etiquette to be followed at customer's premises                               |  |  |
|   | KB7. precautions to be taken while handling field calls and dealing with customers |  |  |
|   | KB8. relevant reference sheets, manuals and documents to carry in the field        |  |  |
| Skills (S)  |  |  |  |
| C. Core Skills/   | Reading and writing skills   |  |  |
| Generic Skills  | The individual on the job needs to know and understand:                            |  |  |
| Generic Skins   | SA1. how to read product and module serial numbers and interpret details such      |  |  |
|   | as make, date, availability  |  |  |
|   | SA2. how to note problems on job sheet and details of work done                    |  |  |
|   | 3/12. How to note problems on job sheet and details of work done                   |  |  |
| D. Professional Skills  | Interpersonal skills   |  |  |
|   | The individual on the job needs to know and understand how:                        |  |  |
|   | SB1. to put customer at ease and generate customer's confidence                    |  |  |
|   | SB2. to listen carefully and interpret their statement of symptoms                 |  |  |
|   | Communication skills   |  |  |
| The individual on the job needs to know and understand how:           |  |  |  |
|   | SB3. to seek inputs at assess the problems   |  |  |
|   | · · · · · · · · · · · · · · · · · · ·  |  |  |
|   |  |  |  |
|   |  |  |  |
|   | warranty, cost of service and module replacement                                   |  |  |
|   | SB6. to educate on precautions to be taken post repairs to avoid recurrence of     |  |  |
|   | problem  |  |  |
|   |  |  |  |









# ELE/N8102 Comprehend customer requirement

| Behavioural skills   |  |  |  |
|--|--|--|--|
| The individual on the job needs to know and understand:  SB7. importance of personal grooming  SB8. significance of etiquette such as maintaining the appropriate physical distance with customer during conversation, not entering bedroom without permission  SB9. importance of being patient and courteous with all types of customers |  |  |  |
| SB10. being polite and courteous under all circumstances SB11. importance of maintaining clean surface/work area   |  |  |  |
| Decision making skills   |  |  |  |
| SB12. decide on the spot on whether interaction of customer with supervisor is necessary or not  |  |  |  |
| SB13. when to call customer care and close the call after work is done to customer's satisfaction and documentation is complete  |  |  |  |









**ELE/N8102** 

# **Comprehend customer requirement**

# **NOS Version Control**

| NOS Code                 | ELE/N8102                    |                  |          |
|--------------------------|------------------------------|------------------|----------|
| Credits(NSQF) [OPTIONAL] | TBD                          | Version number   | 1.0      |
| Industry                 | Electronics                  | Drafted on       | 19/07/13 |
| Industry Sub-sector      | Communication & Broadcasting | Last reviewed on | 31/03/15 |
| Occupation               | After Sales Service          | Next review date | 30/06/16 |





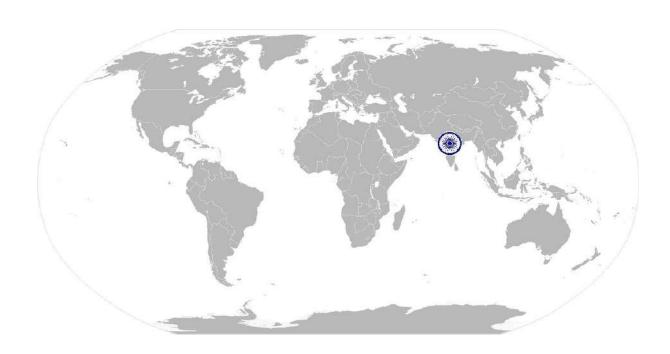




**ELE/N9951** 

### **Interact with other employees**

# National Occupational Standard



# **Overview**

This unit is about the individual's level of communication with co employees and other departments within the organisation. It determines the ability to work as a team member to achieve the required deliverables on schedule.



# National Occupational Standards





| ELE/N9951              | Interact with other employees   |
|------------------------|---|
| Unit Code              | ELE/N9951   |
| Unit Title<br>(Task)   | Interact with other employees   |
| Description            | This OS unit is about communicating with colleagues and seniors in order to achieve smooth work flow  |
| Scope                  | <ul> <li>This unit/ task covers the following:</li> <li>Interact with supervisor or superior</li> <li>Coordinate with colleagues</li> </ul> |
| Performance Criteria(P | C) w.r.t. the Scope   |
| Floresent              | Boufamana Critaria  |

|                  | -,             |   |  |  |
|------------------|----------------|---|--|--|
| Element          | Perform        | nance Criteria  |  |  |
| Interacting with | To be co       | be competent, the user/individual must be able to:  |  |  |
| supervisor       | PC1.           | understand work requirements, targets and incentives  |  |  |
|                  | PC2.           | report problems identified in the field   |  |  |
|                  | PC3.           | escalate customer concerns that cannot be handled on field  |  |  |
|                  | PC4.           | resolve personnel issues  |  |  |
|                  | PC5.           | receive feedback on work standards and customer satisfaction  |  |  |
|                  | PC6.           | communicate any potential hazards at a particular location  |  |  |
|                  | PC7.           | meet given targets  |  |  |
|                  | PC8.           | deliver work of expected quality despite constraints  |  |  |
|                  | PC9.           | have feedback from a happy and satisfied customer   |  |  |
| Interacting with | To be co       | mpetent, the user/ individual must be able to:  |  |  |
| colleagues       | PC10.          | resolve inter-personnel conflicts and achieve smooth workflow   |  |  |
|                  | PC11.          | receive spares from tool room or stores   |  |  |
|                  | PC12.          | deposit faulty modules and tools to stores  |  |  |
|                  | PC13.          | pass on customer complaints to colleagues in a respective geographical area   |  |  |
|                  | PC14.          | assist colleagues with resolving field problems   |  |  |
|                  | PC15.          | clearly demarcate roles of each team member   |  |  |
|                  | PC13.<br>PC14. | pass on customer complaints to colleagues in a respective geographical area assist colleagues with resolving field problems |  |  |

# Knowledge and Understanding (K)

| •   |   |
|---|---|
| A. Organizational Context (Knowledge of the company / organization and its processes) | The individual on the job needs to know and understand:  KA1. company's policies on: incentives, delivery standards, and personnel management  KA2. importance of the individual's role in the workflow  KA3. reporting structure |
| B. Technical<br>Knowledge   | The individual on the job needs to know and understand:  KB1. how to communicate effectively  KB2. how to build team coordination   |









# Interact with other employees

| Ski             | lls (S) [Optional]         |   |
|-----------------|----------------------------|---|
| A. Core Skills/ |                            | Teamwork and multitasking   |
|                 | Generic Skills             | The individual on the job needs to know and understand how:                   |
|                 |                            | SA1. to deliver product to next work process on time                          |
| В.              | <b>Professional Skills</b> | Decision making   |
|                 |                            | The individual on the job needs to know and understand:                       |
|                 |                            | SB1. how to report potential areas of disruptions to work process             |
|                 |                            | SB2. when to report to supervisor and when to deal with a colleague depending |
|                 |                            | on the type of concern  |
|                 |                            | Reflective thinking   |
|                 |                            | The individual on the job needs to know and understand:                       |
|                 |                            | SB3. how to improve work process  |
|                 |                            | Critical thinking   |
|                 |                            | The individual on the job needs to know and understand:                       |
|                 |                            | SB4. how to spot process disruptions and delays                               |









# Interact with other employees

# **NOS Version Control**

| NOS Code            | ELE/N9951                    |                  |          |  |  |
|---------------------|------------------------------|------------------|----------|--|--|
| Credits(NSQF)       | TBD Version number 1.0       |                  |          |  |  |
| Industry            | Electronics                  | Drafted on       | 19/07/13 |  |  |
| Industry Sub-sector | Communication & Broadcasting | Last reviewed on | 31/03/15 |  |  |
| Occupation          | After Sales Service          | Next review date | 30/06/16 |  |  |







| Keywords /Terms                      | Description   |
|--------------------------------------|---|
| Sector                               | Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.   |
| Sub-sector                           | Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.  |
| Occupation                           | Occupation is a set of job roles, which perform similar/ related set of functions in an industry.   |
| Function                             | Function is an activity necessary for achieving the key purpose of the sector, occupation, or an area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.                                   |
| Sub-function                         | Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.  |
| Job role                             | Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.   |
| Occupational Standards (OS)          | OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts. |
| Performance Criteria                 | Performance criteria are statements that together specify the standard of performance required when carrying out a task.  |
| National Occupational Standards (OS) | NOS are occupational standards which apply uniquely in the Indian context.  |
| Qualifications Pack (QP)             | QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.  |
| Unit Code                            | Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'   |
| Unit Title                           | Unit title gives a clear overall statement about what the incumbent should be able to do.   |
| Description                          | Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.  |
| Scope                                | Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.   |
| Knowledge and<br>Understanding       | Knowledge and understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.   |
| Organisational Context               | Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.  |
| Technical Knowledge                  | Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.  |

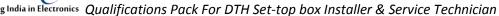






| Core Skills/ Generic<br>Skills | Core skills or generic skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles. |  |
|--------------------------------|---|--|
| Keywords /Terms                | Description   |  |
| AC                             | Alternating current   |  |
| BER                            | Bit Error rate  |  |
| DAS                            | Digital Addressable System  |  |
| DC                             | Direct current  |  |
| DTH                            | Direct to home  |  |
| HDMI                           | High definition multimedia interface  |  |
| LNBC                           | Low Noise block down converter  |  |
| MER                            | Modulation error ratio  |  |
| NOS                            | National Occupational Standard(s)   |  |
| NSQF                           | National Qualifications Framework   |  |
| NVEQF                          | National Vocational Education Qualifications Framework  |  |
| NVQF                           | National Vocational Qualifications Framework  |  |
| QP                             | Qualifications Pack   |  |
| RF                             | Radio frequency   |  |
| STB                            | Set top box   |  |
| USB                            | Universal serial bus  |  |
| VGA                            | Video Graphics Array  |  |





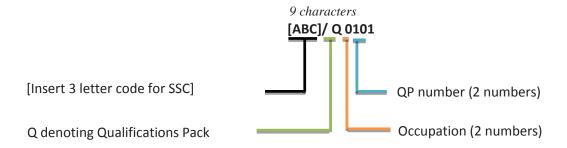




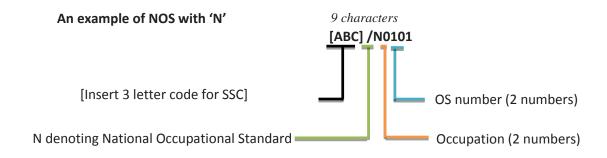
### **Annexure**

# **Nomenclature for QP and NOS**

# **Qualifications Pack**



# **Occupational Standard**



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

| Sub-sector                | Range of Occupation numbers |
|---------------------------|-----------------------------|
| Passive Components        | 01 - 10                     |
| Semiconductors            | 11 - 20                     |
| PCB Manufacturing         | 21 - 30                     |
| Consumer Electronics      | 31 - 40                     |
| IT Hardware               | 41 - 50                     |
| PCB Assembly              | 51 - 55                     |
| Solar Electronics         | 56 - 60                     |
| Strategic Electronics     | 61 - 65                     |
| Automotive Electronics    | 66 - 70                     |
| Industrial Electronics    | 71 - 75                     |
| Medical Electronics       | 76 - 80                     |
| Communication Electronics | 81 - 85                     |
| PCB Design                | 86 - 90                     |
| LED                       | 91 - 95                     |
| Generic Occupation        | 96 - 99                     |

| Sequence         | Description                       | Example |
|------------------|-----------------------------------|---------|
| Three letters    | Industry name                     | ELE     |
| Slash            | /                                 | /       |
| Next letter      | Whether <b>Q</b> P or <b>N</b> OS | Q/N     |
| Next two numbers | Occupation code                   | 01      |
| Next two numbers | OS number                         | 01      |













#### **CRITERIA FOR ASSESSMENT OF TRAINEES**

| Job Role             | DTH Set-top Box Installer and Service Technician |
|----------------------|--|
| QP#                  | ELE/Q8101  |
| Sector Skill Council | Electronics Sector Skills Council of India       |



#### **Guidelines for Assessment:**

- 1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
- 2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
- 3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
- 4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
- 5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS

|   |   |                         |        | Marks Al | llocation           |
|---|---|-------------------------|--------|----------|---------------------|
| Element   | Performance Criteria  | Total<br>Marks<br>(300) | Out Of | Theory   | Skills<br>Practical |
|   | ELE/N8105 Install and repair DTH set top box  |                         |        |          |                     |
| Collecting customer details and carrying necessary equipment and products | PC1. understand the work order and site details of the customer from the superior and customer  |                         | 5      | 2        | 3                   |
|   | PC2. coordinate with stores department to collect the set box and other components or tools required for installation or servicing such as drilling machine, satellite meter, multi-meter |                         | 5      | 2        | 3                   |
| Installing DTH Set Top<br>Box   | PC3. identify the location for installing the Dish Antenna (LNB) as per the specific requirements in case of DTH  | 100                     | 5      | 1        | 4                   |
|   | PC4. drill and fix dish antenna (LNB)   |                         | 4      | 1        | 3                   |
|   | PC5. align it correctly using the satellite meter   |                         | 4      | 2        | 2                   |
|   | PC6. install set top box and check signal strength  |                         | 4      | 1        | 3                   |
|   | PC7. connect set top box with TV  |                         | 3      | 1        | 2                   |
|   | PC8. connect home theatre System with TV/ STB via HDMI, Audio/ Video/ Svideo/ SPDIF, etc.   |                         | 5      | 2        | 3                   |







|                                 | PC9. identify the fault responsible for unsatisfactory/interrupted service by   |       | 8   | 3  | 5  |
|---------------------------------|---|-------|-----|----|----|
| Consistence and most i          | checking wire, signal strength, connectors, set top box  PC10. check the AC Mains output with the help of multi-meter and check the external power supply (Adaptor DC Output) |       | 7   | 2  | 5  |
| Servicing and resolving faults  | PC11. rectify the problem and resume uninterrupted service to the satisfaction of client  |       | 10  | 2  | 8  |
|                                 | PC12. fill in the technical report of the fault found in the defective set top box and send to the L2 service centre where it will repaired                                   |       | 5   | 2  | 3  |
|                                 | PC13. maintain opening and closing documents for collection of material and testing devices from the stores   |       | 6   | 3  | 3  |
| Completing documentation        | PC14. collect necessary forms such as Customer Registration and Program Authentication Form and submit to relevant departments in the company                                 |       | 6   | 3  | 3  |
|                                 | PC15. collect customer identity (ID) proof and Customer feedback form   |       | 3   | 1  | 2  |
|                                 | PC16. achieve 100% installation and servicing as allotted   |       | 3   | 0  | 3  |
|                                 | PC17. rectify customer complaint at first visit itself  |       | 3   | 1  | 2  |
|                                 | PC18. ensure zero repetitive complaints   |       | 3   | 1  | 2  |
| Achieving productivity,         | PC19. ensure 100% complaints resolution   |       | 2   | 1  | 1  |
| quality and safety<br>standards | PC20. minimize material consumed for resolving the complaint/fault  |       | 2   | 1  | 1  |
| standards                       | PC21. carry out the work as per standards specified for the quality   |       | 2   | 1  | 1  |
|                                 | PC22. follow the safety standards as per company's policy   |       | 2   | 1  | 1  |
|                                 | PC23. ensure 100% functioning of the set top box such as Transponder, Signal Strength, Audio and Video quality, and Remote control  |       | 3   | 1  | 2  |
|                                 |   | TOTAL | 100 | 35 | 65 |
|                                 | ELE/N9951 Interact with other employees   |       |     |    |    |
|                                 | PC1. understand work requirements, targets and incentives   |       | 7   | 3  | 4  |
|                                 | PC2. report problems identified in the field  |       | 8   | 4  | 4  |
|                                 | PC3. escalate customer concerns that cannot be handled on field   |       | 6   | 2  | 4  |
| Interacting with                | PC4. resolve personnel issues   | 100   | 7   | 2  | 5  |
| supervisor                      | PC5. receive feedback on work standards and customer satisfaction   | 100   | 6   | 3  | 3  |
|                                 | PC6. communicate any potential hazards at a particular location   |       | 6   | 2  | 4  |
|                                 | PC7. meet given targets   |       | 7   | 2  | 5  |
|                                 | PC7. Heet given targets   |       | /   |    | 3  |







|   | PC9. have feedback from a happy and satisfied customer                                |       | 6   | 2  | 4  |
|---|---|-------|-----|----|----|
| Coordinating with colleagues                | PC10. resolve inter-personnel conflicts and achieve smooth workflow                   |       | 7   | 2  | 5  |
|   | PC11. receive spares from tool room or stores   |       | 7   | 2  | 5  |
|   | PC12. deposit faulty modules and tools to stores                                      |       | 6   | 2  | 4  |
|   | PC13. pass on customer complaints to colleagues in a respective geographical area     |       | 6   | 2  | 4  |
|   | PC14. assist colleagues with resolving field problems                                 |       | 7   | 2  | 5  |
|   | PC15. clearly demarcate roles of each team member                                     |       | 7   | 3  | 4  |
|   |   | TOTAL | 100 | 35 | 65 |
|   | ELE/N8102 Comprehend customer's requirement   |       |     | •  |    |
| Interacting with customer prior to visit    | PC1. check customer complaint registered at customer care or installation schedule    | 100   | 4   | 2  | 2  |
|   | PC2. call customer to confirm problem and fix time for visit                          |       | 4   | 2  | 2  |
|   | PC3. greet the customer and confirm the problem registered                            |       | 3   | 1  | 2  |
|   | PC4. be polite and patient when interacting with customer                             |       | 3   | 1  | 2  |
|   | PC5. check about warranty status of appliance and annual maintenance contract         |       | 3   | 1  | 2  |
|   | PC6. anticipate possible problems to carry tools and parts accordingly                |       | 4   | 2  | 2  |
|   | PC7. ascertain customer location in order to make the route plan for the day          |       | 4   | 2  | 2  |
| Interacting with customer at their premises | PC8. enquire about the symptoms and history of problems in the appliance              |       | 5   | 2  | 3  |
|   | PC9. ask about the age of appliance and status of upkeep                              |       | 5   | 2  | 3  |
|   | PC10. identify the problem based on customer's information                            |       | 5   | 2  | 3  |
|   | PC11. communicate the problems identified and educate on possible reasons             |       | 5   | 2  | 3  |
|   | PC12. inform about costs involved   |       | 5   | 2  | 3  |
| Suggesting solutions to customer            | PC13. discuss the problem(s) identified with customer                                 |       | 6   | 2  | 4  |
|   | PC14. suggest possible solutions and costs involved                                   |       | 7   | 3  | 4  |
|   | PC15. explain the time required and methodology for servicing necessary               |       | 6   | 3  | 3  |
|   | PC16. seek customer's approval on further action                                      |       | 6   | 4  | 2  |
| Achieving productivity and quality          | PC17. accurately assess the problem and solution(s) necessary                         |       | 4   | 1  | 3  |
|   | PC18. offer most appropriate and cost-effective service as per customer's requirement |       | 4   | 1  | 3  |







|  | PC19. communicate problem effectively in order to secure customer's confidence |       | 3   | 1  | 2  |
|--|--|-------|-----|----|----|
|  | PC20. ensure customer satisfaction and positive feedback                       |       | 3   | 1  | 2  |
|  | PC21. record minimum customer complaints post service                          |       | 3   | 1  | 2  |
|  | PC22. avoid repeat problem post service  |       | 4   | 1  | 3  |
|  | PC23. prepare most optimum route plan to complete daily target visits          |       | 4   | 1  | 3  |
|  |  | TOTAL | 100 | 40 | 60 |





