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QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

Electronics Sector Skills Council of India,

422, Okhla Industrial Estate, Phase – III, New Delhi - 110020

Name and contact details of individual dealing with the submission

Name: Rakesh Mathur

Position in the organisation: Senior Vice President

Address if different from above

Tel number(s)

T: +91-11-46035050

M: +91-9810 285 345

e-mail address: rmathur@essc-india.org

List of documents submitted in support of the Qualifications File

1. Occupation Map
2. RFP for development of National Occupational Standards
3. Composition of NOS Subcommittee
4. Mapping of Manpower skills in IT Hardware and Electronics Industry – MAIT (2009)
http://www.essc-india.org/Essc/reports/MAIT0Report2008_15711.pdf
5. Approval of QP/ NOSs
 - a) Minutes of the meeting of GC meetings
 - b) Composition of the Technical Committee
6. ESSCI IMaCS LMIS Report
7. List of Companies and industry associations which participated in the development of these qualifications packs
8. List of QP/ NOS validating companies

QUALIFICATION FILE

SUMMARY

Qualification Type	Qualification Pack
Qualification Title	Access Controls Installation Technician
Classification code	ELE/Q4608
Body/bodies which will assess candidates	Electronics Sector Skills Council of India
Body/bodies which will award the certificate for the qualification.	Electronics Sector Skills Council of India
Body which will accredit providers to offer the qualification.	Electronics Sector Skills Council of India
Legal and/or other basis of the qualification.	<p>Has been developed following the guidelines laid down by NSDC for NOS and QP development. The same can be viewed at http://nsdcindia.org/documents-nos-creation</p> <p>Has been cleared by the due diligence and QRC process of NSDC and has been put as National Occupational Standards in public view by NSDC at http://nsdcindia.org/nos</p> <p>Has been validated by 80% companies. The names of the industries are given in the Annexure 11.</p>
Occupation(s) to which the qualification gives access	<p>Access Controls Installation Technician: Also called 'Access Control Device Installer', the Access Control Installation Technician provides after sale support services for access control devices and systems such as point of sale scanners, finger print or iris scan.</p> <p>The individual at work is responsible for installing the access control system at the customer's premises. The individual undertakes site assessment, installs the hardware and integrates the system to meet customer's requirement.</p> <p>The job requires the individual to have: ability to build interpersonal relationships, patience, listening skills and critical thinking. The individual must be willing to travel to client premises in order to install equipment at different locations.</p>
Proposed level of the qualification in the NSQF.	4
Anticipated volume of training/learning required to complete the qualification.	200 hours
Entry requirements / recommendations.	Diploma/ ITI
Progression from the qualification.	Access Controls Installation Technician, with experience and acquiring additional qualifications can become , Field Engineer, Service Engineer, Regional/ Zonal/ Branch Service

Head, Service Head			
Planned arrangements for RPL.	Will be done at the place where required lab. Facility could be arranged.		
International comparability where known.	None		
Formal structure of the qualification			
Title of unit or other component (include any identification code used)	Mandatory/ Optional	Estimated size (learning hours)	Level
ELE/N 4616 Engage with customer for Installation	Mandatory	80	4
ELE/N 4617 Install and Set-up Access Control System	Mandatory	80	4
ELE/N 9909 Coordinate with colleagues and co-workers	Mandatory	40	4

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum or Qualification Pack.

Give details of the document here:

Qualification Pack is attached as Annexure 1

QUALIFICATION FILE SECTION 1

ASSESSMENT

Name of assessment body:

If there will be more than one assessment body for this qualification, give details.

- **Aspiring Minds**
- **Mettl**
- **IQAG**

Will the assessment body be responsible for all assessment and for all candidates?

Yes

Explain how assessment for the qualification will be carried out and quality assured to achieve consistency.

Assessment of applicants is done as per ESSCI's Assessment Procedure – Assessment Bodies and Trainees, as attached in Annexure.

Will the assessment body be responsible for RPL assessment?

Yes

Give details of how RPL assessment for the qualification will be carried out and quality assured.

RPL will be based on the same Qualification Pack and Assessment Criteria mentioned in the QP. The process of RPL assessment is under development.

ASSESSMENT POLICY

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:

The emphasis is on practical demonstration of skills and knowledge based on the performance criteria. Assessment design team carries on research for understanding job details, followed with competencies mapping for the module and for the performance criteria. The assessment papers are created by the Subject Matter Experts and moderated by Assessment Designers of Assessment Partners as per the assessment criteria, for theory and practical questions considering the lab. facility available for the assessments. The Assessment Sets prepared by Assessment Partners are reviewed by ESSCI for consistency and match with the level of the QP.

The assessment partners are instructed to hire assessors with integrity, reliability and fairness and have them sign an agreement confirming confidentiality, no conflict of interest or any other position, which may compromise the quality of assessment. The assessors need to have adequate hands-on experience in the domain, preferably at a level above the position for which they conduct the assessment.

Assessors are trained on the assessment process, and the question set. At the time of the assessment, the assessors check the identity of the candidates with a photo identification card and attendance during the training. They also take snapshots photographs of the practical assessments, and get the attendance for the assessment signed off by the candidate.

Please attach any documents giving further information about assessment and/or RPL.

Give details of the document(s) here:

ASSESSMENT EVIDENCE

Complete a grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification on page 1.

CRITERIA FOR ASSESSMENT OF TRAINEES					
Job Role	Access Controls Installation Technician				
QP #	ELE/Q4608				
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 <i>unique question papers for theory part for each candidate at each examination/training center</i> (as per assessment criteria below)					
4. Individual assessment agencies will create <i>unique evaluations for skill practical for every student at each examination/training center</i> based on this criteria					
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS					
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.					
					Marks Allocation
Element	Performance Criteria	Total Marks (400)	Out Of	Theory	Skills Practical
ELE/N4616 Engage with customer for installation					
Interacting with customer visit	PC1. call customer on phone, greet and listen attentively	100	3	1	2
	PC2. understand all the requirements of customer		3	1	2
	PC3. understand the basic site layout where the access control system is to be installed		3	1	2
	PC4. check with customer about time for visit, field work and confirm location		3	1	2
	PC5. interact with the customer to understand the purpose of installation, institutional/organisational requirement, budget and other decision making factors		3	1	2
	PC6. understand the customer's requirement on number of access control points		3	1	2
	PC7. assess the type of access of data interface required such as intranet, etc.		3	1	2
	PC8. ask open and close-ended questions about customer's expectation on access control features		3	1	2
	PC9. educate about different systems and equipment available to meet expectations and requirements		3	1	2
	PC10. follow etiquette when interacting with customers as per company policy such as politeness and patience		3	1	2
	PC11. achieve customer satisfaction on engagement behaviour such as listening to complaints or appropriate dressing		3	2	1
Studying	PC1. visit the installation site and study the layout		3	1	2

installation site conditions	PC2. take down measurements as per company's specifications		3	1	2
	PC3. identify all the entry and exit points		2	1	1
	PC4. decide on any civil works is required for equipment installation and check with customer		2	1	1
	PC5. understand the building structure for cabling purpose		2	1	1
Suggesting solutions	PC6. suggest the access control systems that could best fit customer's and site requirements		3	1	2
	PC7. suggest the type of access controls and data recording system to be installed		3	1	2
	PC8. suggest the hardware / software requirements if it has to be connected with IP network or for remote accessing		3	1	2
	PC9. suggest the hardware system that suit the customer budget and meet the functional requirement		3	1	2
	PC10. educate customers about the different type of hardware / brand available in the market and suggest an ideal system for the site		3	1	2
	PC11. assess any hesitation from customer on selection of system and provide an alternative solution		3	1	2
Deciding the equipment to be installed	PC12. confirm the number and type of access controls devices to be installed as		5	2	3
	PC13. take confirmation on mounting points of equipment in the site		5	3	2
	PC14. confirm the location of system placement (server)		5	2	3
	PC15. estimate the time for installation process and inform the customer		5	3	2
	PC16. inform the customer about hardware details including cost and confirm		5	2	3
Achieving quality and productivity standards	PC17. achieve 100% target on monthly installations		3	1	2
	PC18. ensure quality of work as prescribed or as agreed with customer		3	2	1
	PC19. educate customer on post installation care and warranty		3	1	2
	PC20. have a happy customer by meeting agreed service level		3	1	2
			TOTAL	100	40
ELE/N4617 Install and setup the access control system					
Procuring access controls hardware for installation visit	PC1. carry different types of hardware required for access controls system installation, e.g., master controller, door control unit, card reader (RFID card)	100	2	1	1
	PC2. ensure that hardware matches the customer requirement and specifications		2	1	1
	PC3. ensure that industry compliant and quality hardware products are used		2	1	1
	PC4. check the warranty associated with the hardware product		2	1	1
	PC5. ensure product user manual is given to the customer		2	1	1
	PC6. receive invoice and related documents for the hardware equipment		2	1	1

Testing of hardware before installation	PC7. check the hardware before carrying to the installation site	2	1	1
	PC8. replace the hardware if there is any issue or malfunction is found while testing	2	1	1
	PC9. check for critical equipment such as card reader w.r.t quality and output	2	1	1
	PC10. ensure all the tools, equipment, utilities are available in good to enable installing in single visit	2	1	1
Install the access control equipment	PC11. place and fix the card reader equipment near the entry and exit points	4	1	3
	PC12. fix / mount the card reader as per the standard operating procedure without damaging the equipment / mounting surface such as wall, furniture, etc.	4	1	3
	PC13. fix the door control unit to the doors (entry / exit points)	2	1	1
	PC14. install other hardware such as smart-hub and master controller at the designed location	4	1	3
	PC15. ensure specific requirement based hardware are matching with client expectation and are installed as per the standard operating procedure	4	1	3
Installing the wiring (cable)	PC16. understand the type of cable requirement for different types of network type such as USB, twisted pair, etc.	2	1	1
	PC17. ensure adequate length of cables are available for installation	2	1	1
	PC18. lay the cables in the building or site connecting the control system and control unit as per the standard operating procedure mentioned in the product manual	2	1	1
	PC19. ensure that there are no cable joins, sharp bends during cabling	2	1	1
	PC20. use BNC connectors for joining cables and crimp them	2	1	1
	PC21. ensure weather proof (UV proof) cable are used in outdoors	2	1	1
	PC22. use power cable with appropriate thickness	2	1	1
	PC23. connect all the cables from individual door control units to master controller unit	2	1	1
	PC24. ensure that cabling is appropriate, protected and does not disturb the ambience of building (interior and exterior)	2	1	1
Install software and set up the system	PC25. ensure that all cables are devices integrated and connected to a (computer) system	4	1	3
	PC26. identify the operating system and software requirement for the access control system	4	1	3
	PC27. install the software as per hardware requirement such as smart manager access	4	1	3
	PC28. set up the system and perform a demonstration	4	1	3
	PC29. ensure all data is captured as per customer requirement	4	2	2
	PC30. fix for any errors (if any) identified during the demo	4	1	3
	PC31. educate customers about best use of hardware equipment and hardware maintenance	4	1	3

	PC32. inform customers about warranty coverage details		4	2	2
	PC33. get sign off from the customers on the work completed and the installation feedback as per organisation requirement		2	1	1
Using tools and equipment	PC34. use tools such as diagonal cutters, screwdrivers, crimp tools, knife, etc., for wiring and mounting of access control devices		2	1	1
	PC35. follow standard operating procedure of tools and equipment and avoid any hazard		2	1	1
	PC36. follow the installation manual for specific hardware product to avoid issue in installations		2	1	1
	PC37. use recommended tools for specific equipment to avoid damage to the hardware		2	1	1
	PC38. ensure zero-material damage while handling the equipment during installation process		2	1	1
		TOTAL	100	40	60
ELE/N9909 Coordinate with colleagues and co-workers					
Interacting with superior	PC1. understand work requirements, targets and incentives	100	5	2	3
	PC2. receive work order/job instruction from the supervisor on time		5	2	3
	PC3. understand new operating procedures		5	2	3
	PC4. report problems encountered in the assembly process		5	2	3
	PC5. resolve personnel issues		5	2	3
	PC6. receive feedback on work standards and operating procedure		5	2	3
	PC7. communicate any potential hazards at work location		5	2	3
	PC8. meet given targets and deliver work of expected quality despite constraints		5	2	3
	PC9. highlight any errors in previous step of the assembly process		5	2	3
	PC10. report in time about shortage of consumables		5	2	3
Interacting with Colleagues	PC11. receive consumables/tools from tool room or stores		8	3	5
	PC12. report defective or inadequate number of components		9	4	5
	PC13. deposit faulty modules and tools to stores		9	4	5
	PC14. communicate to colleagues errors identified in any step of the assembly process		8	3	5
	PC15. assist colleagues in any problems identified in their work process		8	3	5
	PC16. resolve conflicts and achieve smooth workflow		8	3	5
		TOTAL	100	40	60

QUALIFICATION FILE SECTION 2

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

Feedback from the industry was collected with respect to the past and projected industry growth, projected employee growth during next 5 years (Refer to Pages 14 to 27 of the LMIS report), skill gaps identified in entry level qualified workforce for the sub-sector (Refer to Page 31 of the LMIS report), and current employment number for the qualification (Refer to Occupation Map). This enabled prioritization of the development of the qualification packs.

What is the estimated uptake of this qualification and what is the basis of this estimate?

Occupation Map and LMIS Report for the skill gap between the industry demand institutional supply provide the basis for estimated uptake. This is the basis for planning training with the industry and training providers.

What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?

NSDC QRC team checks and confirms this.

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

Technical Committee's inputs are sought from time-to-time as needed to check the relevance of QP/ NOSs, and the revision exercise is undertaken, as needed.

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

Refer Page 1 for the list of attachments

QUALIFICATION FILE SECTION 3

SUMMARY EVIDENCE OF LEVEL

Level of qualification: 4

Summary of Direct Evidence (from learning outcomes):

LEVELING SCORE CARD

Process Required	Professional Knowledge	Professional Skills	Core Skills	Responsibility	Level
Requires good understanding of Access Control installation and associated problems, Location of Sensors, Wiring/Cabling and Control Unit. Knowledge of selecting & procuring components and required sub-systems. Of unpacking and positioning the equipment methodically and routing the Cables interconnecting the Door Controllers, Card Readers and other peripherals and power cables. Should have good understanding from experience of common problems faced and solutions in installation, loading-software and booting-up a new system. Should have good knowledge of common problems and of trouble-shooting hardware/software issues in faulty system and problem resolution These being	Requires Technical knowledge of Access Control System Hardware & Software Technology. Of interfacing devices: Card Reader and Door Controller its functionality, specifications and operational requirements. Has to be experienced, knowledgeable on equipment repair, identifying and replacing defective sub-systems and testing System for normal operation after installation or repair. As all the above is in the field of Access Control-Technology the job is placed at Level-4.	Good understanding of Customers Requirements from the System and placement of equipment, inform customer of the standard available devices, cost, their usage & interconnection. Placement of Master Control and peripherals, advise customer on Operation, preliminary maintenance and repairs of equipment. Requires technical expertise in installation and repair, necessary skill and knowledge and usage of correct hardware & software tools and replacement parts to achieve productivity and quality. Places job at Level-4	Requires knowledge of language, good communication skills to interact with the customer. Requires documentations skill for System design, making BOM, making layout topology, collecting information, filling up the forms, writing Bills and getting endorsement from customer. Interacting with superior briefing them on status of work-completion and pending targets, new customer requirements and alternate strategies. Maintain good peer group relation and capability of learning from their technical and behavioural experiences. Places it at Level-4	In his routine activities of installation and listening to customer complaint, diagnosing the fault, identifying the faulty module, assembling and disassembling the faulty module or component. Following Safety procedures he is not under any kind of supervision. Following Personal and Equipment safety procedures while handling equipment and sophisticated instruments and tools. With each problem solving exercise he is adding to his own learning. Because of these reasons this can be pegged at level 4.	4

predictable and routine placing the job at Level-4.					
4	4	4	4	4	

Summary of other evidence (if used):

QUALIFICATION FILE SECTION 4

EVIDENCE OF RECOGNITION OR PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

Vertical mobility options are available in the Occupation map.

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

Occupation Map

Refer Page 1 for the list of attachments