

CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

- NIELIT Gorakhpur,
M.M.M.U.T. Campus, Deoria Road Gorakhpur – 273010 (UP)
Phone No.: 0551-2273371
Branch Office
- NIELIT Lucknow
A-1/9, Sumit Complex, Vibhuti Khand, Gomti Nagar, Lucknow- 226010(UP)
Phone No.: 0522 272 0590

Name and contact details of individual dealing with the submission

Name:	Pawan Verma
Position in the organisation	Sr. Technical officer
Address if different from above	As above
Tel number(s)	0522-2720590
E-mail address	pawanverma@nielit.gov.in

List of documents submitted in support of the Qualifications File

1. Detailed Curriculum
2. Administrative Approval (Attached at Annexure 1)
3. Project Report (Attached at Annexure 2)
4. Annexure-3

QUALIFICATION FILE SUMMARY

1	Qualification Title	Diploma in Installation & Repair of Consumer Electronics Products
2	Qualification Code, if any	NL/S/L4/C007
3	NCO Code and Occupation	3114.0100 Electronics Technician
4	Nature and Purpose of Qualification (Please specify whether qualification is short term or long term)	Nature: Short Term Certificate Course which will help in employment. Purpose: A Technical Diploma to provide employment opportunities in Consumer Electronics Product Installation and Repair sector
5	Body/bodies which will award the qualification .	Certification Division, National Institute of Electronics and Information Technology NIELIT Bhawan , Plot No.3, PSP Pocket, Sector-8, Dwarka, New Delhi-110077
6	Body which will accredit providers to offer courses leading to the qualification.	National Institute of Electronics and Information Technology NIELIT Bhawan , Plot No.3, PSP Pocket, Sector-8, Dwarka, New Delhi-110077
7	Whether accreditation/affiliation norms are already in place or not , if applicable (if yes, attach a copy)	Yes Attached in Annexure-3
8	Occupation(s) to which the qualification gives access	Support Technician for Multi-National and National Desktop PCs Manufacturers Can Work In Call Centre for After Sale Support - can be also absorbed in Local Markets Can start their own Small Scale business and can be self employed
9	Job description of the occupation	Electronics Technician
10	Licensing requirements	No
11	Statutory and Regulatory requirement of the relevant sector(documentary evidence to be provided)	NA
12	Level of the qualification in	4

	the NSQF.		
13	Anticipated volume of training/learning required to complete the qualification	350 Hrs.	
14	Indicative list of training tools required to deliver this qualification	<ul style="list-style-type: none"> • Trainer Kits of all Consumer Electronics Product • For those Consumer Electronics Product whose Trainer Kits are not Available product will be purchased and dismantle by Trainer for individual Practice • Screw Driver Set • Tweezers, Different Types of Tweezers, Nose Pliers, Wire Cutter • Hot air gun • Liquid solder pest, Magnifying Lamp and Measuring Tools • Test and Measurement Equipment, Multimeter Operation etc. 	
15	Entry requirements and/or recommendations and minimum age	12 th /ITI	
16	Progression from the qualification (Please show Professional and academic progression)	<p>Academic: After completion of this course, students can go for other advance courses .</p> <p>Professional:. Technician → Service Engine → Service manager Technician → Self Entrepreneur</p>	
17	Arrangements for the Recognition of Prior learning (RPL).	Yes. The RPL will be carried out through screening, identifying the skill gaps, provide bridge training to cover the competency gap & then conduct final assessments of the candidates	
18	International comparability where known (research evidence to be provided)	No	
19	Date of planned review of qualification		
20	Formal structure of the qualification		
	Mandatory components		
	Title of component and identification code/NOSs/Learning outcomes	Estimated size (learning hours)	Level

	DCEP-01	LCD-LED TV and Monitor	100	4
	DCEP-02	Cable TV and DTH Services	90	
	DCEP-03	VCD-DVD Player and Home Theatre System	70	
	DCEP-04	FM Radio- Cordless Phone-Hair Dryer	35	
	DCEP-05	Induction Stove and Microwave Oven	40	
	DCEP-06	Enhancing Communication Skill	15	
		Sub Total (A)	350	
	Optional components			
	Title of component and identificationcode/NOSs/Learning outcomes		Estimated size (learning hours)	Level
		Sub Total (B)	0	
		Total (A+B)	350	

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

SECTION 1 ASSESSMENT

21	<p>Body/Bodies which will carry out assessment: Examination Cell, National Institute of Electronics and Information Technology NIELIT Bhawan , Plot No.3, PSP Pocket, Sector-8, Dwarka, New Delhi-110077</p>
22	<p>How will RPL assessment be managed and who will carry it out?</p> <p>Give details of how RPL assessment for the qualification will be carried out and quality assured.</p> <p>Yes. The RPL will be carried out through screening, identifying the skill gaps, provide bridge training to cover the competency gap & then conduct final assessments of the candidates.</p>

23	<p>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:</p> <p>The emphasis is on practical demonstration of skills & knowledge based on the performance criteria. Each OUTCOME is assessed & marked separately. Student is required to pass in all OUTCOMES individually and marks are allotted. Following assessment methodologies are used.</p> <p style="margin-left: 40px;">A. Written Assessment (Multiple Choice Questions) B. Practical Assessment C. Viva Voce Assessment</p> <p>The assessment results are backed by following evidences.</p> <ol style="list-style-type: none"> 1 The assessor collects a copy of the attendance for the training done under the scheme. The attendance sheets are signed and stamped by the In charge / Head of the Training Centre. 2 The assessor verifies the authenticity of the candidate by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/Government. The same is mentioned in the attendance sheet. 3 The assessor assigns roll number. 4 The assessor takes photograph of all the students along with the assessor standing in the middle and with the centre name/banner at the back as evidence.
-----------	--

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

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the the qualification” in the Summary.

NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.

24. Assessment evidences Title of Component:

Outcomes to be assessed/NOSs to be assessed	Assessment criteria for the outcome
1. Use of Tools and testing equipments to repair/service	Installation and demonstration of LCD-LED TV. Use and functionality of all features/ Operation of LCD-LED TV and Monitor. Use of repairing tools and testing equipments like multimeter,

LCD-LED TV and Monitor.	function Generator etc
	Identifying correct software version/modules in the product and ascertain correct and complete porting/update of software in the Product Operate Product testing equipment. Fault Diagnosis & Connect Product's PCB to PC/test equipment for diagnostics. Repair/replace part if needed using right tool.
2.Implementation/maintenance of Cable TV and DTH Services.	Connection & Implementation of Cable TV and DTH Services
	Diagnosis Faults and rectify the same
3.Use and functionality of all features of VCD-DVD Player and Home Theatre System	Demonstration & Installation of VCD-DVD Player and Home Theatre System. Use & functionality of all features/ operation of VCD-DVD Player and Home Theatre System. Safely dismantle/assemble Product using the right tools. Servicing of Product. Assess & analyse fault and take appropriate action like replacement of any part or card.
4.Servicing and repair FM Radio Cordless Phone-Hair Dryer	Demonstration and access all features of FM Radio, Cordless Phone & Hair Dryer
	Servicing of FM Radio, Cordless Phone & Hair Dryer, Diagnose faults using step by step procedure and take appropriate action like replacement of part etc using right tool.
5.Installation, Servicing & repair Induction Stove and Microwave Oven	Demonstration, installation and Operation of Induction Stove and Microwave Oven. Use and access of all features/Operation of Induction Stove and Microwave Oven.
	Servicing of these equipments. Identify faults following standard procedure and rectify it.
6.Enhancing Communication Skills	Interpret operating manual of the equipment. Interpret safety manual.
	Record customer query and provide appropriate solution.
	Communicate with customer and supervisor clearly. Fill up record/work book clearly, concisely and accurately.

Means of assessment 1

SI	Examination Pattern	Modules	Duration in	Maximum
----	---------------------	---------	-------------	---------

No		Covered	Minutes	Marks
1	Theory Paper – 1	1,2,3	90	100
2	Theory Paper – 2	4,5,6	90	100
3	Practical -1	all	180	90
4	Internal Assessment	all	-	30
5	Assignment		-	30
	Total			350

Note:

1. Pass percentage would be 50% marks in each component, with aggregate pass percentage of 50% and above.
2. Grading will be as under:

Grade	S	A	B	C	D	Fail
Marks Range (in %)	>85%	75%-84%	65%-74%	55%-64%	50%-54%	<50%

3. Theory examination would be conducted online and the paper comprise of MCQ and each question will carry 1 marks.
4. Practical examination/Internal Assessment/ Project/Presentation/Assignment would be evaluated internally.
5. Major Project/Dissertation would be evaluated preferably by External / Subject Expert including NIELIT Officials.
6. Candidate may apply for re-examination within the validity of registration.
7. The examinations would be conducted in English Language only.

SECTION 2

EVIDENCE OF LEVEL

OPTION A

Title/Name of qualification/component: Diploma in Installation & Repair of Consumer Electronics Products Level: 4			
NSQF Domain	Outcomes of the Qualification/Component	How the outcome relates to the NSQF level descriptors	NSQF Level

Process	The individual needs to know and understand Electronic and Electrical Components operating Skills, Principle of Operation of Consumer Electronic Product and their types	The mentioned activities to Work in familiar, predictable, routine, situation of clear choice.	4
Professional Knowledge	The individual on the job needs to know and understand Knowledge of spare management and repair & return process for faulty components Protection equipment (anti-static wrist bands, shoes, dress, packaging, and other appropriate insulations) that are required to be used First aid requirements in case of electrical shocks, cuts and other common injuries Functionality and features/working of Consumer Electronics Products Consumer Electronics Products specific Console Control and user interface Functionality of hardware components of Consumer Electronics Products Procedure to dismantle and assemble Consumer Electronics Products Range of tools and testing equipment (multi meters, frequency generators etc) available and their functionality ESD hazards and their effect on electronic components Standard fault-finding (troubleshooting) techniques Basic computer knowledge to be able to run diagnostic tools Functionality of hardware components, software applications, screen, touchpad etc. Consumer	The job holder understands the Factual knowledge of field of knowledge or study.	4

	Electronics Products software related problems and their possible solutions Standard repairing process		
Professional Skill	The individual on the job needs to know and understand Consumer Electronics Product Equipment operating Skills Use and access all features and applications Consumer Electronics Product Operate Consumer Electronics Product testing equipment's Connect Consumer Electronics Product's PCB to PC/test equipment for diagnostics Consumer Electronics Product repairing skills Undertake fault diagnostic Interpret test results to identify and localize faults Utilize appropriate mechanisms and tools to rectify the faults	Recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts.	4
Core Skill	The individual on the job needs to know and understand how to Read and understand technical manuals, work orders and reports Read and understand Consumer Electronics Product safety instructions Fill up record sheets clearly, concisely and accurately as per company procedures Clearly communicate relevant information to supervisors Respond appropriately to queries Prioritize and execute tasks in a high-pressure environment Use and maintain resources efficiently and effectively	Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment.	4

	Analytical Skills Analyse (and understand) Manufacturing Process based on Company need Interpret reports, readings and numerical data Keep up to date with new technology and performance issues Other Skills Create and maintain effective working relationships and team environment through collaboration Take initiatives and progressively assume increased responsibilities Share knowledge with other team members and colleagues		
Responsibility	After successful completion of this course, participant will be acquainted with the necessary Hardware and Software skills for Installation, Repair, Maintenance and Trouble shooting of Consumer Electronics Product. Participants will be a “Ready to Observe” product for Consumer Electronics Product manufacturing sector.	Responsibility for own work and learning.	4

SECTION 3**EVIDENCE OF NEED**

26	What evidence is there that the qualification is needed? India is expected to become the fifth largest consumer durables market in the world by 2025. The consumer electronics market is expected to increase to US\$ 400 billion by 2020. The production is expected to reach US\$ 104 billion by 2016. The sector is expected to double at 14.7 per cent compound annual growth rate (CAGR) to US\$ 12.5 billion in FY15 from US\$ 6.3 billion in FY10. Urban markets account for the major share (65 per cent) of total revenues in the consumer durables sector in the country. Demand in urban markets is expected to increase
-----------	---

for non-essential products such as LED TVs, laptops, split ACs and, beauty and wellness products. In rural markets, durables like refrigerators as well as consumer electronic goods are likely to witness growing demand in the coming years as the government plans to invest significantly in rural electrification.

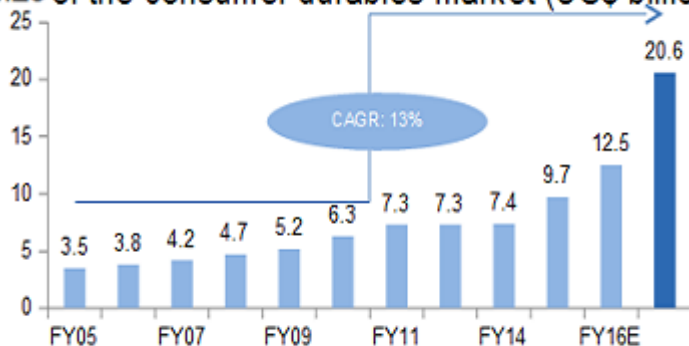
The Government of India has increased liberalisation which has favoured foreign direct investments (FDI). Also, policies such as National Electronics Mission and digitisation of television and setting up of Electronic Hardware Technology Parks (EHTPs) is expected to boost the growth of this sector.

The consumer durables market is anticipated to expand at a CAGR of 14.8 per cent to US\$ 12.5 billion in FY15. Also, the demand from rural and semi-urban areas is projected to expand at a CAGR of 25 per cent to US\$ 6.4 billion in FY15, with rural and semi-urban markets likely contributing majorly to consumer durables sales.

Consumer durables revenues have been growing at a healthy pace

- The consumer durables sector revenues reached US\$ 9.7 billion in FY15 and is expected to reach US\$ 12.5 billion in FY16
- Consumer durable market expected to grow at CAGR of 13 per cent from FY05 to FY20
- Around two third of the total revenue is generated from urban population and rest is generated from rural population
- Samsung has emerged as the market leader in the consumer durable segment followed by the Indian giant Videocon

Size of the consumer durables market (US\$ billion)



Source: Electronic Industries Association of India,
CAGR – Compound Annual Growth Rate, E : Estimated F : Forecasted

Link: <http://www.ibef.org/industry/indian-consumer-market.aspx>

With growing demand, domestic production has also been on a rise...

AC production ('000s)



Washing machine production ('000s)



Refrigerator production ('000s)



FPD TV production ('000s)



27 Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences

The qualification is approved under scheme for financial assistance for skill development in electronics System Design and Manufacturing(ESDM) sector of latter dated 01/11/2013 of Ministry of communication and Information Technology Department of electronics and Information Technology
Letter of Approval is Attached Annexure-1

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

Online access of Qualification Register is not yet available.

29 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?

The Qualification is to be monitored and reviewed every two years.

The following data will be used

1. Results of assessments
2. Employer feedback will be sought post-placement
3. Student feedbacks

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

NSQF QUALIFICATION FILE

Approved in 2nd NSQC – NCVET, Dated: 22nd September, 2020

NSDA Code 2020/ITES/NIELIT/03887
--

NIL

NSQC APPROVED

SECTION 4

EVIDENCE OF PROGRESSION

30	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? This qualification has comprises both technical and analytic skills and can be linked to any qualification higher than this one, existing or to come.
-----------	---

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

Give details of the document(s) here:

NA

SECTION 5

EVIDENCE OF INTERNATIONAL COMPARABILITY

List any comparisons which have been established. NIL
--

